

Journal of the Royal Society of Arts

NO. 4964

FRIDAY, 11TH NOVEMBER, 1955

VOL. CIII

FORTHCOMING MEETINGS

WEDNESDAY, 16TH NOVEMBER, at 2.30 p.m. '*Public Relations and Advertising To-day*', by Sir Stephen Tallents, K.C.M.G., C.B., C.B.E., a Member of Council of the Society. Sir Miles Thomas, D.F.C., Chairman, British Overseas Airways Corporation, in the Chair.

MONDAY, 21ST NOVEMBER, at 6 p.m. The first of three CANTOR LECTURES on '*The Science of Brewing*', by A. H. Cook, D.Sc., F.R.I.C., F.R.S., Assistant Director, the Brewing Industry Research Foundation. (The Syllabus appeared in the last issue of the *Journal*.) The lectures will be illustrated with lantern slides and exhibits.

WEDNESDAY, 23RD NOVEMBER, at 2.30 p.m. E. FRANKLAND ARMSTRONG MEMORIAL LECTURE. '*Research in Industry*', by B. K. Blount, M.A., B.Sc., D.Phil.Nat., F.R.I.C., Deputy Secretary of the Department of Scientific and Industrial Research. R. Holroyd, M.Sc., Ph.D., Director of Research, Imperial Chemical Industries, Ltd., in the Chair.

THURSDAY, 24TH NOVEMBER, at 4.30 p.m. COMMONWEALTH SECTION. (Joint Meeting with the East India Association and the Pakistan Society.) The Right Honble. The Earl of Home, P.C., Secretary of State for Commonwealth Relations, will give an account of his Commonwealth Tour. The Right Honble. Sir Patrick Spens, K.B.E., Q.C., M.P., President, East India Association, in the Chair. (Tea will be served from 4 p.m. See special notice below.)

MONDAY, 28TH NOVEMBER, at 6 p.m. The second of three CANTOR LECTURES on '*The Science of Brewing*', by A. H. Cook, D.Sc., F.R.I.C., F.R.S., Assistant Director, the Brewing Industry Research Foundation.

WEDNESDAY, 30TH NOVEMBER, at 2.30 p.m. '*Scientific Aspects of the Detection of Crime*', by L. C. Nickolls, M.Sc., A.R.C.S., D.I.C., F.R.I.C., Director,

Metropolitan Police Laboratory. Sir William Charles Crocker, M.C., Past-President of the Law Society, in the Chair. The paper will be illustrated with lantern slides.

THURSDAY, 1ST DECEMBER, at 7.30 p.m. FILM EVENING (see separate notice).

MONDAY, 5TH DECEMBER, at 6 p.m. The last of three CANTOR LECTURES on '*The Science of Brewing*', by A. H. Cook, D.Sc., F.R.I.C., F.R.S., Assistant Director, the Brewing Industry Research Foundation.

WEDNESDAY, 7TH DECEMBER, at 2.30 p.m. ALFRED BOSSOM LECTURE. '*Planning Against Noise*', by H. Bagenal, F.R.I.B.A. J. L. Martin, M.A., Ph.D., F.R.I.B.A., Architect to the London County Council, in the Chair.

THURSDAY, 8TH DECEMBER, at 5.15 p.m. '*Some Social Effects of Tropical Medicine within the Commonwealth*', by R. S. F. Hennessey, C.M.G., M.D., F.R.C.P.I., late Director of Medical Services, Uganda. Sir Selwyn Selwyn-Clarke, K.B.E., C.M.G., M.C., M.D., F.R.C.P., Chairman, Commonwealth Section Committee, in the Chair. (Tea will be served from 4.30 p.m.)

Fellows are entitled to attend any of the above meetings without tickets and may also bring two guests. When they cannot accompany their guests, Fellows may give them special passes, books of which can be obtained on application to the Secretary.

COMMONWEALTH SECTION JOINT MEETING

It is anticipated that, as the meeting on 24th November, announced above, is a joint meeting, the attendance will be unusually heavy. Admission will, therefore, be by ticket only, and Fellows who are interested in attending should apply to the Secretary by Friday, 18th November. A ballot may be necessary.

FILM EVENING

The first Film Evening of the Session will be held at the Society's House on Thursday, 1st December, at 7.30 p.m., and the programme will consist of the three following films:

The Rival World

Man with a Thousand Hands

Panta Rhei

The Rival World (25 minutes), in Eastmancolour, is one of the latest films produced by the Shell Film Unit, and deals with man's constant fight against

the ever-present menace of the insect world. It touches on the work of the World Health Organisation and the Food and Agricultural Organisation of the United Nations in dealing with the anopheline mosquito, the tsetse fly, the desert locust, and many other insect scourges. This film was awarded a first prize in this year's Venice Festival and a Diploma of Merit at Edinburgh. It will be introduced by Mr. Alan Deller.

Man with a Thousand Hands (55 minutes), also in colour, was made for the International Harvester Company. It deals impressively with the hydro-electric scheme of the Kitimat-Kimano-Netchako project and shows how the various technical engineering problems were dealt with. The theme is the power of machinery to cope with the vast natural barriers of the Rockies and, although the film is long, it maintains its interest throughout.

Panta Rhei (All Things Flow) (10 minutes), is a highly original and creative Dutch film by Bert Haanstra. It has a musical accompaniment only (score by Max Vredenburg) and illustrates by skilful cutting the ancient Greek aphorism which forms its title.

Tickets are not required and Fellows are invited to bring two guests. Light refreshments will be served in the Library afterwards.

VISIT OF HIS ROYAL HIGHNESS THE PRESIDENT

His Royal Highness The Duke of Edinburgh visited the Society's House on Wednesday, 26th October and presided at a Special Meeting of the Society, at which he presented the Bicentenary Medal to Sir Charles Tennyson, C.M.G., and the R.D.I. diploma to Mr. Uffa Fox. Mr. Milner Gray, the Master of the Faculty of Royal Designers for Industry, then delivered an oration on 'The Creative Urge'. Afterwards, His Royal Highness was entertained at luncheon at Kettner's Restaurant by the Members of the Faculty. A full report of the proceedings will be published in the *Journal* for 25th November.

OVERSEAS MARKET RESEARCH ESSAY COMPETITION AWARDS

The prize of £500, offered by the British Export Trade Research Organisation (1952) Ltd., in the Market Research Essay Competition organized by them jointly with the Royal Society of Arts, for an essay 'How Can Market Research Help Towards Profitable Export Marketing?', has been won by Mr. Peter Clare Beauchamp.

Mr. Beauchamp, who is 26 years old, is Assistant Market Information Officer of a firm of manufacturing chemists in London and took as the main theme of his essay the promotion of exports in the pharmaceutical industry. He proposes to use his prize money to conduct an investigation in Jamaica and Trinidad of the possibilities of selling more of these goods in the Caribbean markets.

The number of essays submitted in the Competition was 25, and the Judges decided to award an additional prize of £25 to Mr. Garth Edward Glasson, aged 34, a South African, resident in Nottingham, for his essay which they considered deserving of this recognition. Mr. Glasson is employed by a firm of lace exporters and is interested in developing the Canadian market.

The presentation of the prize to Mr. Beauchamp will be made at the end of the Market Research Conference, which is to be held at the Society's House on Tuesday, 15th November. All tickets for the Conference have now been issued.

PURCHASE TAX ON MEDALS

As mentioned in the last issue of the *Journal*, the Chancellor, in his Autumn Budget, freed medals from Purchase Tax. It was announced that 'it is proposed to abolish the charge of tax, at present at the rate of 50 per cent of the wholesale value, under groups 27 and 28 of the tax schedule of goldsmiths' and silver-smiths' wares, and on articles made of semi-precious materials'. The liability to tax of such articles will in future be determined by the way in which they fall within the scope of other groups within the schedule. Medals are therefore now free of tax whether struck in precious or non-precious metals, provided that they are not mounted for wearing upon the person.

THE SOCIETY'S CHRISTMAS CARD

Owing to the very heavy orders received for this year's Christmas card, the original stock is now sold out. It has been possible, however, to have a limited number reprinted, but when these are disposed of no additional reprint will be possible.

Fellows who intend to place orders but have not yet done so, are therefore urged to send in the form at the back of this *Journal* without further delay. The price of the cards remains unaltered, in spite of the Budget.

DESPATCH OF JOURNALS IN ENVELOPES

Commencing with the next issue of the *Journal*, which is also the first number of the new volume, *Journals* will be posted flat in envelopes to all Fellows.

REPORT ON THE SOCIETY'S EXAMINATIONS FOR THE SESSION 1954-1955*

INTRODUCTION

Next year will see the centenary of the examination system of the Royal Society of Arts. The occasion is one of some significance in the field of education and it is proposed to mark it in various ways. A review of the history of the examinations conducted by the Society has been published in the Programme of Examinations for 1956 and steps will be taken in other ways to mark the occasion. There is no need, therefore, to comment here on the achievements of the Society in this direction.

The main work of the Society in the examination field has been concerned with those who have left school and are improving their qualifications for employment. In addition, examinations in single or grouped subjects have been devised to meet the needs of those who are still at school and particularly those who are attending what are now called the Secondary Modern, Technical and Commercial Schools. Representations have been made during the year to the Ministry of Education with a view to getting these school examinations recognized as part of the official machinery and the Ministry have now published their Circular 289. It may be opportune, therefore, to review briefly their examinations policy and proposals for the future.

In the early years of the century, pupils at Secondary Schools entered for a wide variety of examinations of all kinds including the local examinations of University bodies, chambers of commerce, and so on. The effect on the curriculum was confusing and it was with a view to introducing some degree of order and standardization that in 1917 a system of approved School and Higher Certificate examinations, conducted by eight approved university examining bodies, was set up. The step was undoubtedly a good one and did much to shape the future of secondary schools on sound lines. Unfortunately, as time went on, examinations tended to dominate rather than serve the curriculum of the schools. Designed as they were to test the work of the main school at 16 and the sixth form at 18 they acquired a new function as a test for employment or admission to universities. In particular, the School Certificate which was awarded on success in five selected subjects became the indispensable qualification for many openings in industry and commerce and the Higher Certificate was used as the vehicle for the award of university scholarships. Matters became worse when London Matriculation was linked with the School Certificate and it became the ambition of boys and girls to secure Matriculation as early as possible in their school career as a passport to employment.

With the passing of the 1944 Act, two important changes came about. In the first place, Secondary Schools were no longer confined to Grammar Schools

* A fuller report, containing the individual reports of the examiners in the various subjects, will be published as a separate pamphlet by the Examinations Department later this year, and a copy may be obtained by Fellows on application to the Secretary.

keeping pupils up to the age of 18 but were widened to include Modern, Technical, Commercial, and other schools with a normal leaving age of 15 or 16. In the second place, the examination system was replanned in the form of a subject examination to be taken as late as possible in the pupil's career. On the recommendation of the Secondary School Examinations Council it was decided that the approved school examinations should not be taken under the age of 16 except under special and closely regulated conditions. In drafting the necessary regulation the Ministry went further and prohibited altogether the entry of pupils under 16 for any external examination other than the approved examinations taken under the prescribed conditions. This policy is to be continued under the terms of Circular 289.

One can well understand and sympathize with the Ministry's desire to keep the curriculum of Modern, Technical and Commercial Secondary Schools free from the incubus of external examinations. It is natural, too, that they should fear a return of the examinations jungle which existed before 1917. Nevertheless, it is doubtful whether the policy foreshadowed in circular 289 is the right one. The approved public examinations were originally designed, and continue to be appropriate, for the needs of Grammar Schools; they are not, generally speaking, suitable to the needs of pupils at other types of schools, particularly those under the age of 16. At the same time, the needs of those pupils cannot be ignored. Boys and girls can reasonably look for an opportunity of testing their achievements by an objective standard and employers will naturally look for some accepted credential by which to judge the technical and professional qualifications of candidates for employment. It is no answer to say that employers can apply to the head teacher of a particular school for information; not only is such a procedure cumbersome and laborious but there is no assurance that the information supplied by the school will conform to an accepted standard. Admittedly, the views of head teachers on the general capacities and characters of pupils are most valuable; but a verdict on their technical qualifications needs some more objective criterion. It has been suggested, and is again suggested in Circular 289, that internal examinations with some form of external assessment are more appropriate to the needs of younger pupils than an external test. A system of internal examinations with external assessment on these lines has often been explored and has never been satisfactorily evolved. It may be that some such system will emerge in the future, but there are many and great difficulties to be overcome. In the meantime, it may well be asked whether the Ministry is right in excluding the great majority of pupils in an important type of new Secondary School from access to suitable examinations. The proper course is surely to leave the matter to the discretion of the school authorities and to allow pupils over the age of 15 to be entered for suitable examinations, under conditions acceptable to the Ministry, on the advice of the Secondary School Examinations Council, provided the head teacher is satisfied that it is in the interests of such pupils to take these examinations and they can do so without detriment to their general education. It would seem that the problem of examinations in Modern and similar schools has not been given sufficient weight

but rather that the simple solution has been accepted of attempting to exclude such schools from access to external tests by reputable bodies who have studied the requirements of pupils and employers over a long number of years.

The effects of this policy, if it is carried out, may well be unfortunate. Undoubtedly, pupils will still seek appropriate qualifications and reputable bodies like the Royal Society of Arts will be encouraged, as they have been in the past by local educational authorities and employers, to provide such examinations. If pupils are not allowed to take them as part of the school machinery they are driven to take them in their spare time and at the expense of their parents. Thus, there is created in the minds of parents and pupils alike an artificial distinction between the school curriculum and the examinations which the pupils expected to pass. There is also the difficulty that those pupils who cannot afford to enter for suitable examinations will be prejudiced as compared with those who have the necessary resources.

It should be recognized that in the case submitted to the Ministry by the Royal Society of Arts there was no intention of advocating a standard school-leaving examination for Modern and similar schools. All that was proposed was that pupils recommended by the school authorities should be entitled to enter for examinations of an appropriate kind and standard within the school routine and at public expense. It is to be hoped that the policy set out in circular 289 is not the last word but that the whole question will be further examined.

GRIFFITH WILLIAMS

ENTRIES AND PAPERS WORKED

The following table gives a detailed comparison of the subject entries for the various examinations conducted by the Society in the Sessions 1954-1955 and 1953-1954, and also of the papers worked:

Examination	Entries		Papers Worked	
	1954-1955	1953-1954	1954-1955	1953-1954
Ordinary (Single-Subject)	142,622	127,107	135,374	120,398
School and Senior School Commercial Certificates	14,952	9,664	14,611	9,444
Oral Tests	3,405	3,022	3,244	2,850
Grouped Course	12,061	11,793	12,264	10,477
Road Transport Subjects	1,142	1,439	1,044	1,330
Teacher's Certificate in Shorthand	652	648	690	624
Teacher's Certificate in Typewriting	403	317	389	306
British Transport Commission (Preliminary Examination of Candidates under Apprenticeship Schemes)	1,976	999	1,874	933
British European Airways (Special proficiency tests in Shorthand and Typewriting)	128	199	128	199
Royal Air Force Administrative Apprentices (Scheme of endorsement of certificates awarded by the Air Ministry)	149	153	149	153
Totals	178,450	155,341	169,707	147,254

GENERAL REMARKS

The total of 178,450 entries for the various examinations conducted by the Society in the Session 1954-1955 is the highest on record, exceeding the total of last year, which at that time was itself a record, by 23,109. This ever-increasing demand clearly demonstrates the wide-spread recognition of the Society's efforts to maintain its established standards of certification in the various subjects of examination, standards widely accepted in the educational world, and utilized by employers in the selection and promotion of office personnel.

This record number of entries is very satisfactory indeed, both to the Council, Fellows, and officers of the Society, and also to the members of the various committees connected with the examinations, to whom the Society is again deeply indebted for help and advice. The Society has indeed been fortunate in the active and valuable support of its committees throughout the years since the first examination was held in 1856. As mentioned in the Introduction, in 1956 we celebrate the Centenary of the examinations, and to mark the occasion the Council have decided to award special prizes for the best papers worked in certain subjects or groups of subjects.

ENTRIES

At the Ordinary (Single-Subject) examinations there were increased entries for almost all subjects, but by far the heaviest increases were in Shorthand, Typewriting, and English Language—the three essential tools of the competent shorthand-typist. There was also an increased demand for both stages of the Shorthand-Typists' Certificate, the syllabuses of which combine these three essentials in the one examination.

For the School and Senior School Commercial Certificate examinations the minimum number of subjects has been reduced this year from seven to five. This was evidently welcomed by the schools since the number of subject entries increased from 9,664 to 14,952. The entries for the Grouped Course examinations also went up from 11,793 to 12,961. In the examinations in Road Transport subjects, however, the numbers fell from 1,439 to 1,142—a disappointing result in view of the constant efforts of the National Committee on Road Transport Education to popularize this important scheme of examinations among road transport workers and to encourage wider support by employers in the industry.

One of the contributory factors to the over-all increase in entries has been the extension of the facilities for the conduct of the examinations in Nigeria and the British Cameroons under the control of the West African Examinations Council. This year there were 9,232 entries at the Ordinary (Single-Subject) examinations, and in addition 600 candidates worked over 5,000 papers at the School and Senior School Commercial Certificate examinations. In future, the West African Examinations Council will introduce and also make itself responsible for conducting the Society's examinations in the Gold Coast.

Since 1950 the Society has arranged special annual examinations for prospective traffic apprentices of British Railways. This year the scheme was extended to cover, in addition, the selection of railway accountancy apprentices, and also port apprentices for the Docks Division of the British Transport Commission. The three sets of candidates worked the same papers in English and Geography/General Knowledge, together with a special paper in their particular field of study, namely 'Railway Subjects—Commercial and Operating' or 'Railway Accounts and Statistics' or 'Port Operation and Administration'. The examinations were held in March, 1955.

Further examinations have been conducted in connection with the scheme of endorsement by the Society of certificates awarded by the Royal Air Force to their Administrative Apprentices. Examinations in Arithmetic and English were held in November, 1954, and in March and July, 1955.

Special examinations in Shorthand and Typewriting for the award of proficiency

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pay to employees of British European Airways were held in October, 1954, and April, 1955.

TEACHER'S CERTIFICATE IN SHORTHAND

At the examination in November, 1954, there were 169 candidates, of whom 90 passed in all sections and 5 were 'referred' in the Speed Test only; in addition, 8 were granted exemption from Part I and 3 from Part II. This exemption is at the discretion of the Panel and is conditional on the candidates completion of the examination within 12 months. In May, 1955, there were 461 candidates, of whom 159 passed in all sections, 11 were 'referred' in the Speed Test only, and 35 were granted exemption from Part I and 15 from Part II.

TEACHER'S CERTIFICATE IN TYPEWRITING

At the examination in November, 1954, there were 142 candidates, of whom 55 passed in all sections, 34 were granted exemption from Part I, and 3 from Part II. In May, 1955, there were 247 candidates, of whom 97 passed in all sections, 26 were granted exemption from Part I, and 8 from Part II.

DEPUTATION TO THE MINISTRY OF EDUCATION

At the meeting of the Examinations Committee in July, 1954, there was a consensus of opinion that experience had proved that the examinations for the General Certificate of Education did not meet the requirements of all types of Secondary Schools, and especially these of Secondary Commercial, Secondary Technical, and Secondary Modern Schools. This matter was further considered by the Examinations General Purposes Sub-Committee and, on its recommendation, the Council submitted the following resolution to the Ministry of Education:

The examinations of the Society, and of bodies of similar standing, are, in our opinion, appropriate to the needs of pupils in Secondary Modern, Secondary Technical, and Secondary Commercial Schools, including, in suitable cases, those between 15 and 16 years of age, and there is a strong case for allowing these pupils to be entered for such examinations by their schools and to have their fees paid by the local education or school authority.

In January, 1955, a deputation of the Council was received by officers of the Ministry when this resolution was discussed in detail. The reply from the Ministry was incorporated in Circular 289, published in July last, which gave the Minister's reasons for maintaining his present policy but invited comments thereon. This Circular is under consideration by the Society.

Arising out of the visit of this deputation to the Ministry of Education, the Society has been informed by the Ministry that 'if, after considering the views expressed in Circular 289, authorities decide to enter for the examinations of the Royal Society of Arts pupils above the prescribed age and to pay the whole, or part of, their fees, the Minister would recognize such expenditure for grant'.

REVISION OF SYLLABUSES

During the Session consideration was given to a general revision of the syllabuses for the School and Senior School Commercial Certificate examinations and for the Ordinary (Single-Subject) examinations in English for Foreigners and Typewriting, and to the introduction of a new examination in Secretarial Duties at the Stage II (Intermediate) level. The recommendations of the sub-committees concerned were approved by the Examinations Committee and will take effect in 1956.

ASSOCIATE MEMBERSHIP

Three Silver Medallists in the 1954 examinations have been elected to Associate Membership of the Society.

GROUPED COURSE EXAMINATIONS, 1955, IN THE ADMINISTRATIVE COUNTY OF LONDON

COMMERCIAL AND GENERAL GROUPS—STAGE I

Subjects	Passed with Credit			Passed			Not Passed			Papers worked at Whitsun and Summer combined
	Whit-sun	Sum-mer	Total	Whit-sun	Sum-mer	Total	Whit-sun	Sum-mer	Total	
Arithmetic	6	—	6	9	4	13	11	16	27	46
Arithmetic & Accounts	—	2	2	7	19	20	4	17	21	43
Commerce	4	2	6	7	28	95	—	9	9	50
Economic Geography	—	—	—	—	—	—	24	14	38	38
English	5	10	15	25	115	140	16	87	103	258
French... ..	—	—	—	1	2	3	17	3	20	23
History	1	1	2	9	2	11	3	1	4	17
Shorthand, 50 w.p.m.	1	6	7	1	10	11	6	103	109	127
" 60 "	—	15	15	—	6	6	—	25	25	46
Typewriting	1	19	20	3	45	48	4	121	125	193
Totals	18	55	79	62	225	287	85	396	481	841

COMMERCIAL AND GENERAL GROUPS—STAGE II

Subjects	1st Class			2nd Class			Not Passed			Papers worked at Whitsun and Summer combined
	Whit-sun	Sum-mer	Total	Whit-sun	Sum-mer	Total	Whit-sun	Sum-mer	Total	
English	—	—	—	—	1	1	—	2	2	3
Shorthand, 80 w.p.m.	—	—	—	—	1	1	1	8	9	10
" 100 "	—	—	—	—	1	1	—	1	1	2
Typewriting	—	1	1	2	7	9	—	11	11	21
Totals	—	1	1	2	10	12	1	22	23	36

TECHNICAL GROUP

Subjects	Passed with Credit			Passed			Not Passed			Papers worked at Whitsun and Summer combined
	Whit-sun	Sum-mer	Total	Whit-sun	Sum-mer	Total	Whit-sun	Sum-mer	Total	
English	39	169	208	146	508	654	4	172	176	1038
Mathematics	125	293	418	41	137	178	8	108	116	712
Science	47	94	141	51	130	187	27	106	133	461
Technical Drawing ...	22	114	136	79	349	428	52	288	340	604
Trade Calculations ...	15	81	96	5	111	116	—	117	117	329
Totals	248	751	999	322	1241	1563	91	791	882	3441

GROUPED COURSE EXAMINATIONS, 1955, AT CENTRES OUTSIDE THE COUNTY OF LONDON

COMMERCIAL AND GENERAL GROUPS—STAGE I

Subjects	Passed with Credit			Passed			Not Passed			Papers worked at Whit-sun and Summer combined
	Whit-sun	Sum-mer	Total	Whit-sun	Sum-mer	Total	Whit-sun	Sum-mer	Total	
Arithmetic	—	3	3	2	9	11	11	34	45	59
Arithmetic & Accounts	—	2	2	3	15	18	18	67	85	105
Commerce	3	1	4	11	36	47	9	18	27	78
Economic Geography	—	—	—	4	4	8	6	22	28	36
English	3	10	13	19	87	106	27	61	88	207
French... ..	—	—	—	2	5	7	—	17	17	24
History	6	2	8	2	4	6	4	7	11	25
Shorthand, 50 w.p.m.	1	16	17	—	8	8	1	36	37	62
„ 60 „	5	13	18	2	1	3	4	13	17	38
Typewriting ...	7	9	16	5	22	27	5	74	79	122
Totals	25	56	81	50	191	241	85	349	434	756

TECHNICAL GROUP

Subjects	Passed with Credit			Passed			Not Passed			Papers worked at Whit-sun and Summer combined
	Whit-sun	Sum-mer	Total	Whit-sun	Sum-mer	Total	Whit-sun	Sum-mer	Total	
English	155	209	364	561	689	1250	134	128	262	1876
Mathematics	297	519	816	220	234	454	186	143	329	1599
Science	168	205	373	250	289	533	190	220	410	1316
Technical Drawing ...	51	181	232	263	376	645	421	248	669	1546
Trace Calculations ...	245	288	533	76	47	193	42	82	124	850
Totals	916	1402	2318	1376	1699	3075	973	821	1794	7187

EXAMINATIONS IN ROAD TRANSPORT SUBJECTS, 1955

	<i>Papers Worked</i>	<i>1st Class</i>	<i>2nd Class</i>	<i>Not Passed</i>
<i>1st Year</i> —Road Transport Operation (Passenger)	219	41	117	61
" " " (Goods) ..	37	3	18	16
Communication and Report Writing ..	155	18	94	43
Road Transport Accounts and Statistics	174	12	79	83
<i>2nd Year</i> —Road Transport Operation (Passenger)	101	26	60	15
" " " (Goods) ..	13	2	7	4
Elements of Road Transport Engineering	50	17	26	7
Road Transport Accounts and Statistics	71	3	32	36
<i>3rd Year</i> —Road Transport Operation (Passenger)	76	25	45	6
" " " (Goods) ..	12	2	8	2
Road Transport Accounts and Statistics	46	5	21	20
Economics Applied to Road Transport	90	8	47	35
Totals	1,044	162	554	328

SCHOOL AND SENIOR SCHOOL COMMERCIAL CERTIFICATE
EXAMINATIONS, 1955*School Commercial Certificate*

Candidates, 1,623; Full Certificates Awarded, 705.

Senior School Commercial Certificate

Candidates, 384; Full Certificates Awarded, 55.

TABLE SHOWING THE NUMBER OF PAPERS WORKED IN THE SCHOOL AND SENIOR
SCHOOL COMMERCIAL CERTIFICATE EXAMINATIONS IN 1955 TOGETHER WITH
THE RESULTS

<i>Subjects</i>	<i>School Commercial Certificate Examination</i>				<i>Senior School Commercial Certificate Examination</i>			
	<i>Number of Papers Worked</i>	<i>Passed with Credit</i>	<i>Passed</i>	<i>Not Passed</i>	<i>Number of Papers Worked</i>	<i>Passed 1st Class</i>	<i>Passed 2nd Class</i>	<i>Not Passed</i>
English Language ...	1,631	98	993	540	384	8	79	297
Arithmetic ...	1,500	441	554	505	372	19	68	285
Book-keeping ...	1,250	331	416	503	352	64	95	193
Commerce ...	1,169	53	853	263	383	8	244	131
Shorthand : 50 w.p.m. ...	550	95	83	378	—	—	—	—
" 60 ..	590	241	137	212	—	—	—	—
" *80 ..	—	—	—	—	169	—	75	88
" *100 ..	—	—	—	—	24	—	6	18
Typewriting ...	1,300	318	365	617	224	25	65	134
English Literature ...	1,231	63	638	530	219	2	60	157
Economic Geography ...	1,179	6	304	869	309	6	66	237
French† ...	279	32	137	110	21	6	5	10
History ...	306	41	124	141	22	—	4	18
History of the British Empire ...	315	19	115	181	204	14	71	119
Mathematics ...	358	34	78	246	101	7	20	74
Science ...	65	13	29	23	9	—	—	9
Spanish ...	46	1	12	33	31	2	9	20
Welsh ...	18	6	7	5	—	—	—	—
Totals ...	11,793	1,792	4,845	5,156	2,818	161	867	1,790

* In Shorthand at 80/100 w.p.m. there is one class of pass only.

† 9 Candidates took the oral test in French : 4 passed with credit and 5 passed.

ORDINARY (SINGLE-SUBJECT) EXAMINATIONS

AUTUMN SERIES, 1954, AND EASTER, WHITSUN, AND SUMMER SERIES, 1955

Subject	Stage	Papers worked	1st Class (or Passed with Credit in Stage I)	2nd Class (or Passed in Stage I)	Not Passed	Total number of papers worked in each subject	
						1955	1954
Accounting...	III	112	6	39	67	112	108
Advertising...	III	30	1	14	15	30	33
Arithmetic ...	I	5,425	944	1,938	2,543	6,649	5,492
" ...	II	1,022	102	387	533		
" ...	III	202	21	81	100		
Book-keeping ...	I	7,082	1,296	2,979	2,807	11,305	10,720
" ...	II	3,111	958	1,067	1,086		
" ...	III	1,112	37	375	700		
Cargo Insurance ...	III	2	—	2	—	2	35
Central and Local Govern- ment ...	II	83	10	39	34	83	—
Commerce ...	I	1,518	93	688	737	2,166	1,699
" (Finance) ...	II	516	64	263	189		
" (International Trade)	III	67	2	40	25		
" (Marketing)	III	49	1	17	31	254	242
Commercial Law ...	III	16	—	—	16		
" ...	II	200	15	104	81		
Common Law ...	III	54	2	31	21	26	32
Company Law ...	III	26	1	7	18	68	67
" ...	II	45	8	23	14	143	136
Costing ...	III	23	4	16	3		
" ...	II	88	3	37	48		
Danish ...	III	55	—	35	20	25	22
" ...	I	17	3	4	10		
" ...	II	3	—	3	—		
Dutch ...	III	5	1	3	1	25	22
" ...	I	11	2	3	6		
" ...	II	7	—	5	2		
Economic Geography ...	III	7	1	2	4	1,387	1,130
" ...	I	969	12	220	737		
" ...	II	324	1	68	255		
Economic & Social History	III	94	1	23	70	212	169
" ...	II	145	22	43	80		
" ...	III	67	18	25	24		
Economics ...	II	402	61	143	198	622	537
" ...	III	220	14	95	111		
Elements of English Law	II	111	6	38	67	111	93
English (with Literature) ...	I	3,314	227	1,871	1,216	5,278	5,760
" (" ") ...	II	1,170	27	629	514		
" (" ") ...	III	794	49	482	263		
English for Foreigners ...	I	903	293	351	259	2,231	1,804
" ...	II	1,025	243	519	263		
" ...	III	303	30	155	118		
English Language ...	I	8,066	691	4,639	2,736	10,363	7,933
" ...	II	2,297	153	1,370	774		
Equity ...	III	—	—	—	—		
Esperanto ...	I	21	7	5	9	34	66
" ...	II	7	3	3	1		
" ...	III	6	3	2	1		
French ...	I	1,128	122	400	606	1,716	1,729
" ...	II	370	46	137	187		
" ...	III	218	15	87	116		
German ...	I	265	79	102	84	421	464
" ...	II	119	30	50	39		
" ...	III	37	5	17	15		

ORDINARY (SINGLE-SUBJECT) EXAMINATIONS

AUTUMN SERIES, 1954, AND EASTER, WHITSUN, AND SUMMER SERIES, 1955—continued

Subject	Stage	Papers worked	1st Class (or Passed with Credit in Stage I)	2nd Class (or Passed in Stage I)	Not Passed	Total number of papers worked in each subject	
						1955	1954
History	I	216	61	85	70	216	244
History of the British Empire	I	26	1	7	18	111	113
" " "	II	42	2	17	23		
" " "	III	43	6	17	20		
Income Tax Law & Practice	III	15	4	11	—	15	—
Italian	I	203	75	86	42	307	239
" " " " " "	II	77	21	38	18		
" " " " " "	III	27	6	17	4		
Law of Evidence and Civil Procedure	III	11	2	5	4	11	—
Law of Trusts	III	4	—	1	3	4	—
Norwegian	I	3	1	2	—	8	—
" " " " " "	II	3	3	—	—		
" " " " " "	III	2	—	1	1		
Public Administration ...	III	58	1	17	40	58	48
Real Property and Con- veyancing	III	12	2	5	5	12	5
Russian	I	38	12	16	10	66	50
" " " " " "	II	18	6	8	4		
" " " " " "	III	10	2	4	4		
Shipping Law and Practice	III	10	—	6	4	10	34
Spanish	I	307	81	122	104	449	511
" " " " " "	II	102	62	25	15		
" " " " " "	III	40	18	17	5		
Statistics	II	63	21	31	11	80	62
" " " " " "	III	17	4	11	2		
Stock Exchange Law and Practice	I	—	—	—	—	—	29
" " " " " "	II	—	—	—	—		
" " " " " "	III	—	—	—	—		
Swedish	I	2	—	1	1	6	—
" " " " " "	II	1	—	1	—		
" " " " " "	III	3	—	3	—		
Typewriting	I	23,531	6,470	7,249	9,812	43,458	37,869
" " " " " "	II	14,380	2,163	5,300	6,917		
" " " " " "	III	5,547	666	2,053	2,828		
Welsh " " " " " "	I	14	4	7	3	14	25
		Papers worked	Passed with Credit	Passed	Not Passed		
Shorthand :							
50 words per minute ...		10,338	1,681	2,312	6,345	44,056	40,505
60 " " " " " "		8,332	2,583	2,538	3,211		
		Papers worked		Passed	Not Passed		
80 words per minute ...		14,306		7,287	7,019		
100 " " " " " "		6,520		2,478	4,042		
120 " " " " " "		4,008		1,016	2,992	3,230	2,908
140 " " " " " "		552		127	425		
Shorthand-Typist's Certificate							
Stage II		2,897		1,504	1,393	3,230	2,908
Stage III		333		163	170		
						135,374	120,938

RECENT TRENDS IN COLONIAL ECONOMIC DEVELOPMENT

A paper by

SIR HILTON POYNTON, K.C.M.G.,

*Joint Deputy Under-Secretary of State, Colonial
Office, read to the Commonwealth Section of the
Society on Thursday, 5th May, 1955, with
Sir Alan Burns, G.C.M.G., United Kingdom
Representative on the Trusteeship Council of the
United Nations, in the Chair*

THE CHAIRMAN: I was very happy to accept the invitation of your Society to take the chair to-day for a lecture by my friend Sir Hilton Poynton. I have had personal experience of the good work which he has done in the Colonial Office over many years and he has in that office tackled so many problems of different kinds that it would be impossible for me, in the short time available, to give you an idea of them all. In view of my own connection with the United Nations I should like to refer to one incident when he was defending our Colonial policy at a meeting at Lake Success. On that occasion Sir Hilton denounced the unfortunate idea which has subsequently become known as the 'salt water fallacy'—the entirely erroneous idea that a colony is only a colony when it is separated from the metropolitan country by a stretch of ocean; that it is reprehensible for any nation to have oversea colonies, but perfectly proper and legitimate for other nations to expand across continents as the United States and Russia have done, absorbing other nations and taking the land which belongs to other people. I have to listen in the Trusteeship Council to a great many speeches on the subject of the need for the immediate grant of self-government to dependent territories, without delay and at any cost, and without any attention to the social and economic conditions in those territories. Now, I happen to believe that political independence without economic independence is little better than a sham and that what the people in the dependent territories need more than anything else is relief from the oppressive poverty which affects so many of them. This can only be cured by their own efforts and by economic development, and for that reason I shall, and I am sure you will, listen with great interest to what Sir Hilton Poynton has to tell us about economic development in the Colonies.

The following paper was then read:

THE PAPER

INTRODUCTORY

The title of this lecture may pose in some of your minds the question: 'How recent is "recent"?' The adjective would mean something very different to a geologist and a journalist. I should like therefore to start by saying that, although I shall have to refer briefly to the years before the last war, the main theme of this lecture is the trends in Colonial economic development during the last decade. I ought also perhaps to make it clear that in using the term 'Colonial', I have in mind all the territories with which the Colonial Office is concerned,

whether they are strictly speaking Colonies or Protectorates, Protected States, territories under United Nations trusteeship, or anything else. This is admittedly a 'terminological inexactitude' but it is not in this context one of any substance, for our policy is the same whatever the status of these territories. Moreover, inasmuch as Northern Rhodesia and Nyasaland were, for almost the whole of the period in question, separate territories under the Colonial Office I have included them in the scope of my lecture and in any general statistics which I mention, although they are now part of the new Federation and thus for economic policy purposes have passed outside the ambit of the Colonial Office. The territories of which I am speaking are some 45 in number, grouped under 35 separate Governors or equivalent officers. The aggregate area is about half the size of the United States, and the aggregate population about eighty million.

In a sense, of course, most of what is sometimes called the Colonial Empire is itself recent, for although the Colonies in the Western Hemisphere have been with us in some cases for over three hundred years, large areas of tropical Africa amounting to some three-quarters by population and two-thirds by area of the whole Colonial Empire only came under British influence in the last sixty or seventy years. These territories had been by-passed by the normal march of civilization and we had to start in them virtually from scratch. They are for the most part countries in which man has to wage a constant battle with his environment in order to survive at all, and when we reflect that this relatively short period of British administration has been interrupted by two world wars and an intervening world economic depression, and that in many respects we are still suffering from the aftermath of the Second World War, the remarkable thing is not perhaps how much remains to be done, but how much we have managed to do.

The territories of which I am speaking vary widely in almost every characteristic, size, population, natural resources and state of development, so that it is almost impossible to make any general statement about them which is true of all. In the economic context, however, it is broadly true to say that their economy is a primary one—the production of raw materials and foodstuffs for export or local use—and, at that, mainly an agricultural economy. But even that needs qualification for there are many important mineral deposits, and industrial development too is growing; and in any case it would be untrue of say Hong Kong or Singapore.

OUTLINE OF GENERAL POLICY

Until about 25 years ago it had been the policy of successive Governments that each Colony should be financially self-supporting. Only in the event of it being unable even to maintain the bare essentials of an administration could it get grants-in-aid from the home country involving detailed control of its whole financial structure. Otherwise each Colony had to make do with its own revenues and with loans on the market serviced from its own revenues. Commercial development was left to private enterprise and the general effect was that those territories which had easily developable resources

went ahead, while those which had not found difficulty in getting started on the road to development. The Colonial Development Act of 1929 marked the first departure from this policy. Under it £1 million a year could be made available by grant or loan for development schemes in the Colony which would lead to increasing commerce with, and industry in, the United Kingdom. Colonial development under this Act was treated as a means to an end, and the very nature of the Act made a 'project-by-project' approach necessary rather than enabling long-term plans of economic and social development to be drawn up and put into operation. A further step was taken in 1940 by the passing of the first Colonial Development and Welfare Act, in which the provision by the United Kingdom Government of finance for Colonial development was for the first time made an end in itself. Although the war made it impossible to take full advantage of this Act, it was taken out and polished up in 1945, when Parliament provided a sum of £120 million, later increased to £140 million, for the ten years from 1946 to 1956. You will probably be aware that Parliament has just extended the period again until 1960 and has made an additional sum of £80 million available for the extended period. This series of Acts has been invaluable in stimulating the long-term planned economic development of the territories, but I ought to make it plain from the start that it is only one of the sources of finance which go towards Colonial development. For the most part, Colonial Governments still draw upon their now very much increased revenues and upon loan funds. I will say more about the financial picture later on. At this stage I would like to turn to the more general pattern of our post-war economic policy.

The war years had naturally distorted the normal economy of the Colonies. The territories in the Far East were, of course, under enemy occupation during the war, but for the rest, without going into too much detail, the main effects were to stimulate an unprecedented demand for many of the raw materials produced in the Colonies, including foodstuffs, and to provide a somewhat artificial protection to their economy in that many of their normal competitors were removed from the field by military or economic causes. For these two reasons the Colonies prospered during the war but, on the other hand, they were affected like everyone else by shortages of materials and manpower. They could not turn their attention to any development works, except those dictated by the necessity of making their maximum contribution to the prosecution of the war.

So we come to the real starting point of the period covered by this paper. The 1945 Colonial Development and Welfare Act made it possible for Colonial Governments to draw up comprehensive long-term development plans and, in the formulation of these plans, the Colonial Office has been able to offer them guidance; but simultaneously with the impulse towards increased economic development there has been a very rapid political and constitutional development. It would be a mistake therefore to think of a broad detailed plan of Colonial development formulated in London and handed out to the various Colonial Governments, each with a rôle assigned to it in a kind of Imperial blueprint.

Any such conception would run quite counter to the well-established policy of successive Governments in developing self-government in the Colonial territories. Subject, however, to this important qualification, it is possible to trace certain general lines of policy which have been commended to Colonial Governments by successive Secretaries of State and which we have, to some extent, been able to influence from London. The expansion of economic activities in the Colonies has to be seen as part of their long-term efforts to strengthen their economies, improve their productivity, and raise their standard of living, for without such economic development there can be no sound basis for the necessary social services or indeed for progress in the political and constitutional field. It became increasingly apparent that any programme for Colonial development, to be successfully carried out, needed to be considered in close relationship to the economic programme of the United Kingdom. I do not mean by that that it had to be subordinated to that of the United Kingdom, but in practice the interests of the United Kingdom and the Colonies are largely complementary. The Colonies depend to a great extent on the ability of the United Kingdom to provide the basic means of development—finance, capital and consumer goods and skilled personnel. On the other hand, the Colonies provide substantial quantities of basic raw materials and foodstuffs needed by the United Kingdom. Moreover, with their large dollar earnings, they have contributed substantially to the improvement of the position of the whole sterling area in relation to the Western Hemisphere.

It is, I think, possible to pick out four broad objectives within the general policy of developing the Colonies in their own interests. First, it was vitally necessary to restore and improve the capital equipment of the Colonies so as to provide a firm basis for future development. Next came the promotion of those types of economic activity, whether primary or industrial production, in which the territories are best fitted to engage, having regard to the balance of their economies and the advantages of external trade. Thirdly, it was our aim to maintain and then raise the living standards of the Colonial peoples as rapidly as the level of their productivity permitted. And finally, we wished to secure the mutual advantage of the United Kingdom and the Colonies having regard to the finance, equipment and skill which the former can provide. But especially during the first half of this last decade the sterling area's difficulties in restoring its balance of external payments necessitated a slight shift of emphasis. The unbalance acted as a powerful force tending to restrict the volume of world trade, whereas the interests of both the United Kingdom and generally speaking of the Colonies are best served by a flourishing international market freely absorbing all that they can produce. It was therefore at that time necessary, in the Colonies' own interest, that they should aim to make the maximum contribution that their resources permitted to the early attainment of a balance in the external payments of the sterling area. This involved both the stimulation of production of commodities which earned foreign currency, particularly dollars, and restraint upon imports from hard currency areas. In these measures the Colonies have co-operated most willingly and efficaciously. But it has always

been the policy to work towards freer trade as and when circumstances warranted it, and the General Agreement on Tariffs and Trade, drawn up in 1947 (of which I shall say more later) was, though full of reservations and escape clauses, conceived as a code of international rules to lead to a free-trade world. Two of its many provisions are specially relevant to Colonial economic policy—one that import restrictions are normally justified only for balance of payments reasons and not for protective purposes, and secondly that preferential tariffs were frozen at their 1947 values, with the aim of progressive reduction of tariff barriers and discriminations.

That was the position as we saw it until about the beginning of 1950, by which time supplies of essential capital and consumer goods were beginning to flow more easily. Then came the Korean War which, while stimulating the demand and therefore the world market price of strategic materials to the benefit of some of our territories, nevertheless aggravated the pressure upon the essential supplies which they required and forced them to save at least a part of the money which they might otherwise have spent on development. But this saving—reflected in a rapid increase in sterling assets held in London to which I shall refer again shortly—prevented what might have become an inflationary boom and was thus, in the longer run anyway, a stimulus to more development. Even so, during 1951 development expenditure by public and semi-public authorities in the Colonies was running at an annual rate of approximately £100 million. The principal factor affecting the economic situation at this time was the external balance of payments difficulties of the sterling area and, although the Colonies continued to maintain a substantial Colonial dollar surplus which for the whole of 1951 exceeded that of 1950, there was a very sharp falling off in the second half of 1951 which naturally was an important element in the rapid fall in the central gold reserves towards the end of that year. Action to remedy the situation was discussed at a meeting of Commonwealth Finance Ministers held in London in January, 1952, at which the Secretary of State for the Colonies was assisted by Advisers representing most of the major Colonial territories or regions. This was followed in December, 1952, by a Conference of Commonwealth Prime Ministers at which the Colonies were similarly represented. In the *communiqué* which was published after the Prime Ministers' Conference, it was agreed that in sterling area countries development should be concentrated on projects which directly or indirectly contributed to the improvement of the area's balance of payments with the rest of the world. It was recognized, however, that in some countries in the sterling area—and this applies particularly to the Colonies—development plans had been made to provide for some basic improvement in the standards of living, which is a necessary foundation for further economic development, and the Conference endorsed the need for investment in such cases. It also recorded that the United Kingdom is the traditional source of external capital for Commonwealth investment and has special responsibilities in the Colonial territories. The general policy laid down at the Commonwealth Prime Ministers' Conference of 1952 has been reaffirmed on various subsequent occasions and is still our general directive.

FINANCE

So far I have been dealing with general policy as seen from the centre and inevitably have been dealing with it in rather abstract terms. I turn now to more substantial matter, namely the actual progress made during these last ten years.

I will start with the financial position and, first, the revenues and balances of the Colonies themselves. In 1939 the aggregate revenues of these territories amounted to about £57½ million. In 1947, the first post-war year in which the Far Eastern territories can again be included under civil administration, the corresponding figure was just over £162 million, and in 1954 it is provisionally estimated to have been £414 million. The revenue of the Federation of Malaya alone is now considerably in excess of the aggregate for all the territories in 1939. Most of the money spent on development comes from the Colonies' own revenues or reserves, which naturally have to be responsible also for the recurrent costs of the fruits of capital development whether in the economic or the social field.

The sterling assets of Colonial Governments in aggregate have shown a very big rise in recent years. Whereas at the end of 1948 they totalled some £610 million, they had risen by the end of 1954 to about £1,400 million. They include currency funds; various special funds, such as Sinking Funds, Savings Banks, Pension Funds, and so on, which are earmarked by statute; marketing board funds, and the general invested surpluses of Colonial Governments. The Colonial Office published a memorandum towards the end of 1953 (Colonial paper No. 298) in which these assets were defined and discussed. The extent to which they are available to be drawn on for development purposes is much less than is frequently thought, but in the last year we have reviewed the long-standing policy under which all Colonial currencies have for many years been backed by one hundred per cent reserves, and in December, 1954, the Secretary of State informed Parliament that he had circularized Colonial Governments suggesting that in future Her Majesty's Governments would be agreeable in principle to a small part of Colonial currency funds being invested in locally issued securities, so as to channel these funds to that extent into the development of the Colonies. The extent to which this can be done will depend upon a review of the individual circumstances of each territory, which is still going on, and I cannot say anything further about the likely outcome at present.

By the end of March, 1955, approximately £100 million of the £140 million provided in the Colonial Development and Welfare Acts had been spent—most of it in actual development schemes in the Colonies, though a certain amount has been spent on central services such as the headquarters of the Colonial Geological Survey and the Geodetic & Topographic Survey, training schemes, and so on, and upon research carried out either at home or in the Colonies. Although the remaining £40 million had been committed on approved schemes or earmarked for various specific purposes by the end of the last financial year, it will, along with the £80 million of 'new' money provided under the Act which has just been passed, provide a total of £120 million to be spent in the period 1955 to 1960. The Secretary of State has just announced the allocations which he has made to individual Governments and to central services. Approxi-

mately £12 million has been kept in reserve, but it is intended that this should be fully allocated during the currency of the Act. Actual expenditure of C.D. and W. funds alone in 1954-55 amounted to about £15 million, which is somewhat higher than in the previous two years. This may be compared with an annual potential average of £24 million under the new Act, including the amount carried forward.

Another important source of finance for Colonial development is through Government loans placed on the London market. For the first few years after the end of the war this source was more or less at a standstill—most Colonial Governments were able to finance capital development, so far as physical resources and manpower permitted, from accumulated reserves or C.D. and W. monies and the persistently unfavourable balance of payments position forced the Government strongly to discourage approaches to the London market by Colonial Governments. The first post-war Colonial Government loan was raised by the Government of Trinidad in November, 1948—£3 million at three per cent, and was heavily over-subscribed. Since then there has been a steady stream of loans, and in 1954-55 the figure totalled about £15 million compared with about £20½ million in the previous year. Last year's loans include issues by the East African High Commission for posts and telecommunications and for railways and harbours, a further issue by the Government of Trinidad and one by the Federation of Malaya.

Another potential source of borrowing is the International Bank, on which Northern Rhodesia, while still under the Colonial Office, drew for railway development, and the East African High Commission has quite recently raised about £8 million for the Railways and Harbours Administration. Colonial Governments have also benefited from the United States Programmes of Aid, now known as the 'Foreign Operations Administration'.

COLONIAL DEVELOPMENT CORPORATION

I should also mention at this point the Colonial Development Corporation, which was established by statute in 1948 with borrowing powers up to £100 million, for the purpose of securing the investigation, formulation and carrying out of projects for developing resources of Colonial territories, with a view to the expansion of production therein of foodstuffs and raw materials, or for other agricultural, industrial or trade development therein. (That is quoted *verbatim* from Section 1 (1) of the Overseas Resources Development Act, 1948.) The C.D.C. operates in a somewhat different field from those to which the various forms of finance I have mentioned above are applied. Those funds (Government revenues, C.D. and W. funds, London loans and the like) are all intended to be applied to basic development services which are the responsibility of Government (or in some cases to higher education institutions under autonomous councils). They are not normally applied for work in the commercial field. The C.D.C., however, was designed to operate in the commercial field, and often in that capacity acts in partnership with ordinary private companies. On occasions it has made loans to statutory bodies in the Colonies such as the Central Electricity

Board in the Federation of Malaya. The Corporation has just published its Annual Report for 1954.

EXPANSION OF TRADE

As to the general volume of Colonial trade and commerce, it is perhaps sufficient to say that the volume of imports is now running at about three times its pre-war value, while the volume of exports is some 45 per cent higher. In value, the total of imports has risen from about £182 million before the war to a peak of just under £1,500 million in 1951, and is now running at about £1,300 million, about seven times its pre-war value. On the export side the aggregate value just before the war was £202 million. It rose to a peak of £1,700 million in 1951 and is now running at about £1,350 million, nearly seven times the pre-war value.

Perhaps the best way of indicating the extent of the increase in volume of Colonial exports of primary products is in terms of volume indices taking 1948 as the base year at a level of 100. On this basis, the index for mineral production in 1936 was 89 and the provisional index for 1954—154. For oil-seeds, vegetable oils and whale oil the rise over the same period has been from 118 to 154, for other foodstuffs from 116 to 131, for other agricultural and forestry products from 64 to 107. The combined index figures give a total of 90 in 1936 and 131 provisional for 1954. Statistics of individual commodities can be found in works of reference.

MARKETING PROBLEMS

Production alone, however, is only half the battle: having produced, you must sell. The methods of marketing of Colonial produce are many and various. In the early days after the war, when a wide range of United Kingdom imports were bought on Government account, long-term bulk contracts were made either with Colonial Governments or more usually with producers' organizations in the Colonies. The normal pattern of these contracts was for purchase of the whole output, with perhaps a maximum tonnage, at a fixed price for each year negotiated between the parties and renegotiated annually, often with a provision for a maximum percentage variation in either direction from year to year. The only major commodity still handled in this way is sugar, where under the Commonwealth Sugar Agreement a specially negotiated price, related to the reasonable remuneration of the producers, is paid for about 75 per cent of Colonial sugar up to certain agreed tonnages, the rest finding its market at world market prices plus Preferences where such exist (for example, here and in Canada).

For the most part commodities produced in the Colonies are now marketed through ordinary trade channels at world market prices, which of course are liable to sudden and sometimes sharp fluctuations. In any event only about one third by value of the exports of Colonial territories comes to the United Kingdom, and the rest has to find an outlet in world markets. This trade is, of course, of very direct value to the Sterling Area as a whole. It is to the mutual

advantage of the United Kingdom and of the Colonies that conditions of world trade should be kept as stable as possible, and the inevitable fluctuations of supply and demand on the world market minimized. One of the best ways in which the United Kingdom can help Colonial development in this regard lies in all the measures it can take to maintain a stable and prosperous condition of world trade. The discussions on world economic policy in which the United Kingdom Government engages from time to time may seem remote to the actual producers of individual Colonial crops, say, rubber or sisal, but they are in fact very closely related to the welfare of such industries.

In addition, we have taken part from time to time in international discussions aimed at correcting the disequilibrium between supply and demand of individual commodities which play an important part in world trade. We negotiated, for instance, very much with the interests of Malaya and Nigeria in mind, an International Agreement on Tin which we hope will come into effect before very long. The United Kingdom is also a party to the International Sugar Agreement which aims at maintaining a reasonable world market price for sugar. This measure is complementary to the Commonwealth Sugar Agreement which I mentioned earlier. The Commonwealth Sugar Agreement gives the Commonwealth sugar producers an agreed price for about three quarters of their production; the International Sugar Agreement ensures that the market price which governs the return on the rest of their production is prevented from falling too low.

In other instances, protection against market instability is sought by measures within the Colonies themselves. Some Colonies, for instance notably those in West Africa, have evolved a system of local Marketing Boards with the object of helping to stabilize—or at least minimize the impact of fluctuations in—the price received by the producers. The normal pattern (the details of course vary) is for the Marketing Board to have a monopoly of internal purchase and external sale. At the beginning of the season a fixed price to the producer for the season is announced. If the world price is high, part of the net proceeds of sale, after paying export duties or other taxation to Government, is retained to form a Stabilization Fund and for other purposes of direct benefit to the producing industry. If the world price drops, the price to the producer can be supplemented from the Marketing Board's accumulated funds. In fact, these Boards have accumulated substantial reserves and often make loans to Government or to local development authorities. This system has provoked much controversy among economists in this country, some of whom feel that the interests of the Colonies concerned would have been better served by releasing more of the proceeds in the form of higher prices to the producers, or by higher taxation, so that the excess might accrue to the central Government for the benefit of the territory as a whole, under the authority of the local Legislature. I do not myself propose to enter into this controversy. The policy and its application have been worked out by the local Governments in each case. There is no direction from the United Kingdom and they can alter it whenever they wish. Opinion is free; but generally the local view is that this system has been of very great value.

There is only one other point which I need develop about marketing. Some of our Colonies, notably but not exclusively the West Indies, rely mainly upon the United Kingdom as their market. Their production has expanded under a fortuitous form of protection arising from our balance of payments difficulties which have resulted in restrictions being placed upon imports from non-sterling sources. But such restrictions (and also, to be fair, the import restrictions imposed by Colonial Governments) are only justified on balance of payments grounds; they cannot be used designedly for protective purposes. Consequently every improvement in the balance of payments which leads to the relaxation by the United Kingdom of restrictions on foreign imports exposes the Colonial producer of the same, or alternative, commodities to increased foreign competition in the United Kingdom market. Meanwhile, the possibility of countering this effect by increasing the preference for the Colonies in the United Kingdom tariff has been lost. It is frequently believed that this last difficulty is attributable solely to the 'no-new-preference' rule in G.A.T.T., but in fact that is only one of the obstacles; for many of the United Kingdom duties or preferential margins are specifically bound by other commercial treaties with various countries. Nevertheless, during negotiations earlier this year for a revision of G.A.T.T. the United Kingdom Delegation succeeded in getting the consent of the contracting parties to a waiver of certain provisions of the Agreement—that is not an amendment of the Agreement—so as to enable the United Kingdom to assist and safeguard, in cases of special need, industries or branches of agriculture in the dependent overseas territories which depend wholly or in large measure upon the United Kingdom as a market for the export of their products. It must, however, be used only to benefit the Colonies. Its use is barred if the measures in question would afford any material benefit to the United Kingdom itself or any other territory. I will not say anything about the amendments to G.A.T.T. itself for, although the present Government have made a public statement of policy that they propose to sign at the appropriate time the Protocols of Amendments, I must as a Permanent Official treat this now as an issue still before Parliament.

CONCLUSION

In this account of Colonial economic policy over the past ten years I have had to be selective, but even so I hope I have been able to give you some account of what that policy has been and how far it has proved successful. What has been the actual achievement? I do not propose to give a long list of major capital works, for that would be not only tedious but also to some extent misleading. Major works there undoubtedly are, particularly improvements of ports and inland communications, electric power plant, irrigation, agricultural research and experiment, and so forth, and no account would be complete without reference to the new university colleges and higher technical colleges which have come into existence since the war; but I think the proper approach to Colonial development lies not in a series of isolated major schemes so much as in a constant well-distributed pressure on a number of different fronts at the same time. The progress resulting from such a policy may be less spectacular and less easy

for the publicist to 'high light', but it is none the less real and significant, and rests on a much surer foundation. It cannot be judged solely by statistics of trade or finance but rather in terms of the national incomes per head of the population and in terms of social standards; for, after all, what is the use of wealth if it is not spent on improving the lot of the people. Unfortunately, a long series of statistics about national incomes in these territories is not available and, as you can imagine, the valuation and comparison, in terms of national income, of economies which are still largely 'subsistence' economies is no easy task. Such evidence as we have, making full allowance for price changes, shows a distinct upward trend. As an example of social standards, it is highly significant, I think, that the number of children attending school nearly trebled between 1947 and 1953 in the Gold Coast and Singapore, more than doubled in Uganda, Tanganyika, Zanzibar and the Federation of Malaya, and increased by about fifty per cent in Kenya, Nigeria and Sierra Leone. Before the war, it was customary to reckon the total population of the Colonial territories at somewhere about fifty million people, though one must admit that in some of the less developed areas the carrying out of a census was rather a 'hit and miss' affair. To-day the population is eighty million. How far this increase is due to more exact statistics is difficult to determine, but it is quite safe to say that there has been a very large natural increase. In those territories where birth and death registration has existed for a number of years, remarkable changes have been recorded. Compared with before the war, death rates have fallen by over two-thirds in Hong Kong, by almost one half in Singapore, British Honduras, Cyprus, Malta and Mauritius, and by about one-third in the Federation of Malaya, British Guiana and Jamaica. How far the development of modern health services has contributed to this is demonstrated by the almost complete disappearance during the post-war years of deaths from malaria in Mauritius and in British Guiana, and their reduction by over one-half in Trinidad and Malaya. Similarly, deaths from tuberculosis have fallen by about one-half in Mauritius, Trinidad and Malaya, and by one-quarter in British Guiana.

A particularly sensitive measure of social conditions, including nutrition and general health as well as the availability of medical services, is the infant mortality rate. Compared with the years before the war, this rate has shown a general decline; it has fallen by nearly half in the Federation of Malaya, Singapore, Cyprus, Malta, Barbados, British Guiana, Jamaica, Fiji and Mauritius.

These trends are hardly consistent with the appalling record of British colonialism with which we are so often charged at the Trusteeship Council and elsewhere, but of course the very fact that the population is now increasing so rapidly does mean that development has to move pretty fast if there is to be an increase in national income per head.

There is much still to be done and the responsibility for local policies and their execution has been passing more and more to the local Governments themselves. Nevertheless, if political, economic, and social progress can be kept in step, and if in our own economic relations with our Colonies we can pursue a policy free from any *legitimate* charge of exploitation for our own benefit—

there will, of course, always be mischief makers—then I think that the Colonies and ourselves can face the future with confidence.

DISCUSSION

SIR SELWYN SELWYN-CLARKE, K.B.E., C.M.G., M.C. (Chairman, Commonwealth Section Committee): In his conclusion Sir Hilton Poynton expressed the hope that he had given us some account of Colonial economic trends in the past decade. I am confident that all those here this evening will agree that his hopes have been realized.

One sometimes hears criticism that the sum of some £220 million made available for the period 1946 to 1960 under the Colonial Development and Welfare Acts represents rather less than £3 per head or, if my mathematics are correct, 3s 8d per head per year—a very meagre sum indeed. But I feel that it is insufficiently appreciated that it would be a disservice, apart from being uneconomical, to spend sums hurriedly in Colonial development. Whatever the scheme, it is vitally important that there should be a sufficient number of trained engineers, technicians, craftsmen and operatives, apart from administrators, teachers, doctors and others, from amongst the peoples of the territories concerned, capable of running the enterprise economically and efficiently. But this all takes time.

I am doubtful whether the lecturer's statement that the interests of the United Kingdom and the Colonies are largely complementary can be fully substantiated. For example, there is the recent agitation on the subject of tea prices. The interests of the housewives in this country are of course in low prices, but if more money were available for the tea producer in India and Ceylon, the governments could do more to raise the standard of living and economic levels of the peoples.

Some years ago our Minister of Food arranged a nine-year bulk buying copra contract with one of our Colonial administrations. Subsequently the Ministry, in the interests of British housewives, refused to allow the terms to be revised although the world price of copra had doubled. The contract was freely entered into, but the producer suffered rather badly.

With regard to Marketing Board and Stabilization Funds, I agree that the latter help as a cushion against falls in world prices such as are now taking place in copra, tea, coffee, and essential oils. In a small Colony with which I was once associated we built up a price stabilization fund which amounts at present to about three million rupees. Part of this was to enable the planters to maintain the wages of their workers in the event of a slump in world prices, and part was to be spent on improving housing, living conditions and social services generally amongst the workers. On the other hand, while large projects such as extensions to harbours, hydro-electric schemes, roads and schools can be financed by marketing boards, from the Cocoa Marketing Board in the Gold Coast the actual producer only gets about one third of the world market price for his cocoa crop and in fact finances schemes for others in no way connected with the cocoa industry. Similarly, the price assistance funds in Uganda make it possible for the Government to contribute towards the industrialization of Uganda, educational projects, hydro-electric schemes, and so on. The cotton and coffee producers all benefit from the general economic improvement of the territory concerned, but they bear a somewhat heavier financial burden than other groups in the population.

Two instances in which it is a little difficult to refute some of the charges of exploitation are provided by restriction on imports of goods from other countries. Firstly, years ago when I was in a Colony of which our chairman was later the very distinguished Governor, the manual worker could have bought for sixpence a cotton singlet made in Japan, but in fact had to pay two shillings for one produced in Lancashire. It may be said that if Lancashire does not get money for her cotton textiles she will not buy the cocoa that comes from the Gold Coast, but that is an over simplification.

Secondly, there has recently been agitation by glove manufacturers in Great Britain against the importation of Hong Kong-made gloves. Might not the solution to the unfair competition which manufacturers in this country have to face, not only from foreign countries but from territories within the Colonies, be to press on with the improvement of working and living conditions in those territories? This would raise the cost of production of course, and provide higher wages for workers, and greater buying power for goods and services from the mother country. This is not the time when we should restrict the importation into this country of goods made in Hong Kong by, perhaps, some of these hundreds of thousands of the refugees from China.

May I add a tribute, Sir, to the one which you paid our lecturer in relation to the very valuable work on colonial economic policy he has carried out at the Colonial Office. I have benefited personally from studying his very carefully prepared and valuable despatches some years ago.

MR. LEWIS A. SMART: I am glad that the speaker, and you, Sir, both of whom have such experience on the West Coast, made reference to the necessity of the Africans being good artisans. I do not think that we have ever paid anything like enough tribute to the German missionaries, the Basle missionaries, for what they did. Whereas we were very much prone simply to giving them the 'God palaver' part, the Basle mission would not, over one hundred years ago, take on a lad for education in the schools unless he was bound, for some considerable time, to a definite trade, whether it was bookbinding, printing, or any one of another dozen trades. I know that when I was down in Nigeria, as I often was, if I wanted a good carpenter I sent down to the market place and enquired was there a good Basle mission carpenter available. Very often the reply came back that there was not, but there was a man who had served his apprenticeship under the Basle mission man.

MR. J. P. McDONAGH: One of the practical problems about economic development seems to me to lie in (a) achieving a balance between men, materials and money, and (b) not injecting so great a new volume of capital from outside that you cause a marked inflation in prices in the territory concerned. Perhaps in these enlightened days a certain amount of creeping inflation is accepted as unavoidable. In fact, we define commonly a condition of stability as one in which there is a creeping inflation of perhaps one and a half or two per cent in prices a year. Could the speaker give us any sort of guide by which we could judge the rate at which external capital can be injected into a country without seriously upsetting internal prices?

From the very nature of things the margin of production is tending to be pulled progressively outwards, whether one takes minerals, hydro-electric projects, or even agricultural products. The pressure of man makes it necessary to develop less accessible areas which tends to increase production costs. At the same time, adequate salaries and wages have to be offered to attract people to come and work in these remote areas, and this in itself makes for inflation.

MR. T. D. WEATHERHEAD: Obviously one of the great problems is, on what development scheme shall the money available be spent. I would like to query whether we have our priorities correct. The pressure of population, which is going to grow still faster in the future as the health resources of our Colonies improve, is going to force economic development at an ever-increasing speed. Colonial political pressure will add still greater force to that movement. Have we the latest information about these territories for which the plans should be made, and on which we can safely invest these very large sums on capital development?

My particular interest is in mapping. If you look at the maps which are available, and they after all are the first things to be pulled out when a scheme is to be planned, you find that even the topographical mapping position in our Colonies is definitely inadequate, although great efforts are being made to improve it. If you try to obtain

information on the basic geology of a Colony, that is still worse. Our information on soils and the manner of their use in the Colonies is almost non-existent, yet the basis of most Colonial economy is agriculture. Should we not, therefore, put greater stress on the importance of obtaining the basic information on our natural resources about which people talk so glibly? These are the foundation of our Colonial economic development. I think that this ignorance is costing us an enormous amount of money. It should be a matter of high priority policy to inaugurate a Colonial scheme for obtaining information on all the natural resources as quickly as possible.

MR. LEWIS A. SMART: I think the last speaker cannot be familiar with the splendid work done by Sir Albert Kitson in discovering large deposits of manganese and bauxite, also diamonds, on the Gold Coast and coal in Nigeria, and his subordinates discovering immense deposits of high grade iron ore in Sierra Leone. They were simply wonderful.

MR. GARNET H. GORDON, C.B.E.: The point which was raised by the speaker before the last is a very important one. Indeed, I think it is the justification for a great deal of expenditure under the Colonial Development and Welfare Acts. There was once a concept that the development of a Colony should be regulated by its revenue. I think that the fact that within that concept development was, in many cases, unsatisfactory caused the new concept to be adopted, which meant that through the Colonial Development and Welfare Acts sufficient money should be made available for the type of investigation which the speaker had in mind. Indeed, speaking of the part of the Colonial territory from which I come I know that those funds have facilitated the development in our area. As a result of all this we have been able to exploit some of our natural resources, which were not exploited four or five years ago. That, indeed, helps us to deal with the problem of rapidly increasing population. Population is now overflowing into this country because there is not sufficient opportunity to work at home. The Colonial policy has been such that these people, when they come here, are fit and ready to be absorbed into industry and service in this country, and as many of them as have come have found employment. This is an interesting reflection on foresight in the past, while pointing to present problems.

THE LECTURER: I do not know that I can answer off the cuff all the points which have been raised. However, the first concerned the importance of training technical and other people in the Colonies in skills which would enable them to help to carry out these development plans. I think that is most important, and that a very great deal of that is being done to-day. I spent two and a half months before Christmas making a fairly comprehensive tour of the four West African territories. In almost all the big towns there are government trade centres for technical training, and they have got the new colleges of arts, science and technology at Kumasi and so on, and I have seen some very remarkable skilled craftsmanship in these territories. Certainly in another part of the world, in Singapore, I have seen young Chinese lads in the Singapore Harbour Board doing the most involved repair work to radar systems in ships, and that kind of thing. It is also very important that we should develop the higher education, both technical and more general, in the territories themselves so that the student can complete his undergraduate course, or equivalent, in the territory, and then come to this country perhaps for post-graduate or specialized training when he is a bit older and possibly a bit more stable than at the age at which some of them come over to-day.

On the question of how far the economies of the Colonies and the United Kingdom are complementary, obviously, in any buying and selling relationship, the interest of the seller and the interest of the buyer are opposed in the short term. I am not so sure, however, that they are opposed in the long term. I suppose the ideal for the seller is to get the highest possible price and the ideal for the buyer is to pay the lowest possible price: but if that is pressed to an extreme, if the price to the buyer

goes up very high indeed, he stops buying, and then the seller has not got a market, and *vice versa*. In so many of these commodities it is to the mutual interest of both the United Kingdom as a buyer and the Colony as a producer, and the other way round, to try and keep as far as possible some stabilizing influence on the world prices, so that they do not go too far in either direction.

Sir Selwyn mentioned particularly the copra contracts. I do not say that all the decisions taken under all these contracts were always right, but I do think at times there has been a tendency on the part of the producer to feel that he is entitled to the guarantee of the quantity and the minimum price if the price goes down, and yet to want to be free to claim the peaks of the rise in world prices as they go up. I do not think one can get it both ways. The contracts did give a very great advantage of stability and certainty that there was a market for the crop, and when one thinks of the pre-war slump, when the difficulty, even with all the resources of the Empire Marketing Board and so on, was ever to find a market for one's goods, I think there is a good deal to be said for that. I quite agree there are cases where we ourselves have been not entirely easy as to whether the actual figures in each particular year, or in each particular commodity, had been right.

With regard to the point about Marketing Board funds, there, of course, I found a bit of a difficulty. In a country where there is one commodity which is the life blood of the economy of the place, like cocoa in the Gold Coast, it is really the only thing which can be taxed. The revenue for the territory as a whole has to be raised, and the rich industries have to pay to carry on the services of government in the long run. So I think it is inevitable that to some extent you will find, and must find, that the money which is earned by the cocoa producers is, in fact, spent on schemes for the benefit of other than cocoa producers. It cannot be helped. We get the same in Malaya where the rubber growers are always complaining that they are heavily taxed, but there is only rubber or tin to tax if the public services are to be carried on.

The point regarding import restrictions is an important one. I think the instance Sir Selwyn gave of the prohibition or restriction on buying shirts from Lancashire must have related to before the war, to the 1933 crisis. The policy since the war has been that we have never asked any Colony to restrict the source of its imports for other than balance of payments reasons. We have never done it on protection grounds. We have resisted all the blandishments of Lancashire on that theme the whole time. I think it is reasonable to ask that the Colonies should go easy on balance of payments grounds, because if any one territory goes making a splash with foreign currency it weakens the whole structure of the sterling area, including themselves. Equally, the thing works the other way round. We, though sometimes criticized in the Colonies, have always said that we can only keep on the United Kingdom import restrictions on balance of payments grounds.

Regarding the other aspect of this textile problem, of course, we have been under immense pressure from the Lancashire cotton industry and the Cotton Board for the restriction either by quota or tariff of imports from India and from Hong Kong. The answer I think was given by the Prime Minister in the House yesterday. The Government has flatly refused at the present to do anything about restricting imports by quotas or tariffs from Commonwealth sources, including Hong Kong, and for my own part I find it rather disturbing that Lancashire, protected as it is by all the resources of the British Welfare State, should also expect protection at the expense of people in Hong Kong, whose standard of living and social services is already so much lower. What has happened in Hong Kong is that, for reasons quite outside Hong Kong's control, their normal *entrepôt* trade has been very seriously interfered with, first by the American embargo and secondly by the United Nations resolution which we have had to ask them to follow; and this building up of the textile industry, which now accounts for something like 33 per cent of the employed population in Hong Kong, has been a very useful way of filling the gap in the economy of Hong

Kong. For the United Kingdom Government itself now to administer a kick behind by cutting off its trade with Hong Kong would, I think, be completely indefensible and so far I am glad to see we have held that line very firmly.

On the question of keeping the balance between money, man power and materials, and laying down priorities, it is awfully difficult to give any actual yardstick about the rate of development. It depends so much on the circumstances of the particular territory, and to some extent it is, of course, very largely under the control of the local government. It is the local government which sets the pace much more than the Colonial Office. But, though it is not a question I would care to answer in general terms, I think if it were put in particular terms in relation to a particular Colony, probably the staff of the Colonial Office, its economic research people and its statisticians could make a pretty fair shot at a reasonable answer for a particular territory.

Then there is this question of basic priorities, and in particular surveys and map-making. I am perfectly prepared to agree that we have been behindhand in the past. I think a great deal more has been done and is being done than is sometimes credited through the local survey departments, the survey establishment in Tolworth, and the geological survey. But there again, however much you may say priority number one is to make maps or to survey a country, you have got to find the people to do it. It is not just a question of having the money to pay their salaries, you have to find them and get them to go out into the bush and do the job, and that has not been too easy. We got some help from the Americans under their Economic Co-operation Agreement programme, and we asked them particularly to help to recruit from the United States large numbers of surveyors and geologists. We got very few. Apart from this difficulty, one cannot possibly hold up the current day-to-day work of development for this research to be undertaken. The two must run parallel. We are under immense pressure from the local governments and local public opinion to get on with a progressive policy. A major scheme, such as the Volta River project, can be taken on its own. What we have done there is to appoint a special Commissioner, with staff, who have been doing all this preparatory commission work. They have been going into every conceivable aspect of its implications for, I think, about two years now. They will soon be reporting. What more can be done I do not know; you can only get on as fast as money, with man power, permits. In an order of priority which is largely determined by the local governments, you must not think of Colonial development as an imperial blue print, drawn up in London, in which each Colony is just told 'you do this; you do that'. It will not work that way.

Increasing population? That is the 64 dollar question, to which I frankly admit I have no answer. I do not believe anybody has. It is not to be sought to any extent, I am afraid, by transfer of population. There may be a certain amount of scope for movement of population say within the Caribbean, to British Honduras or British Guiana, but even there the populations are growing. In some territories the problem is a shortage of population, not only in British Honduras, but North Borneo, Sarawak and other parts of the world. Of course, if you could look at this simply as a kind of crossword puzzle it would be so easy to say 'well, you have got a very large surplus population in the West Indies, you have got a very small population in North Borneo, why not send some West Indians to North Borneo?' But it does not work like that: you just cannot move populations round the world. I think the long-term policy (and it is a long-term policy and I do not know if it would ever work in the West Indies) is, that the more education and guidance that can be given to these people on family limitation the better. For practical and direct measures to deal with increase in population have defeated I think everybody so far.

A vote of thanks to the Lecturer was carried with acclamation; and, another having been accorded to the Chairman, the meeting then ended.

SOME WINNING AND COMMENDED ENTRIES FOR THE SOCIETY'S ENDOWED PRIZES 1955

A DUST AND SWarf EXTRACTOR FOR BLIND HOLES

*The winning entry for the Benjamin Shaw Prize for
Industrial Safety*

by A. E. GRIFFITHS

The removal of swarf from blind holes (formed by drilling, reaming or otherwise cutting the work) is commonly effected in machine shops by simply directing a jet of compressed air at the hole. This procedure, although effective, has serious disadvantages. It results in the swarf being expelled violently from the hole and becoming scattered, exposing the operator to the risk of eye injury (unless, of course, he happens to be wearing an effective eye-shield or goggles). In any case it is unpleasant and inconvenient to have swarf blown about, lodging in the operator's clothing and settling on the floor. These disadvantages are entirely obviated by means of the present invention, according to which

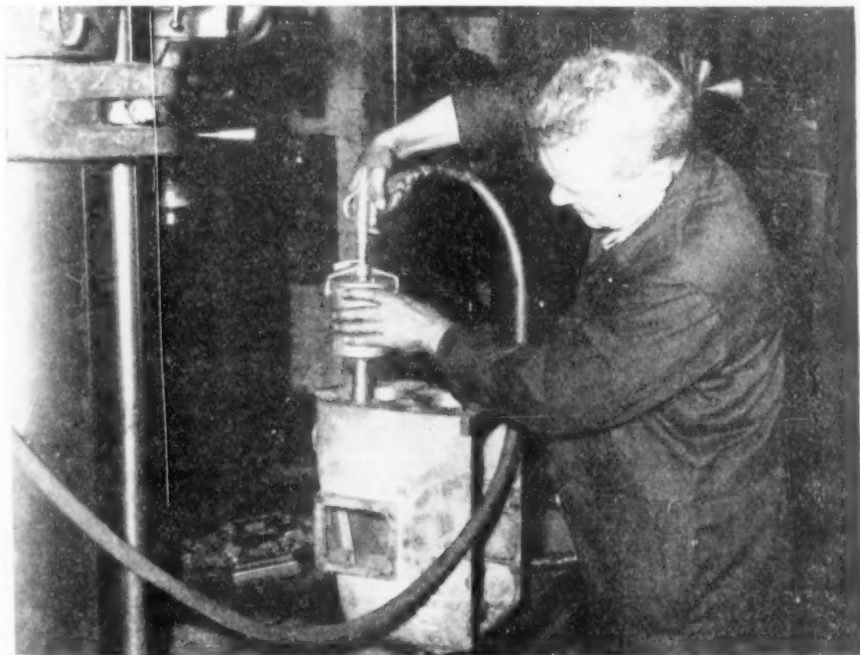


FIGURE 1. *The Dust Extractor in use on the Archdale radial drilling machine*

compressed air is supplied to a nozzle or pipe inserted in the hole, and having adequate clearance therein, and the swarf expelled through the clearance space being collected in a receptacle which is substantially closed except for an inlet opening arranged to receive the efflux from the hole.

The preferred appliance for carrying the invention into effect comprises means for effecting controlled delivery of compressed air to a nozzle or pipe capable of being inserted in the hole with adequate clearance, and a pot-like receptacle which is substantially closed except for an inlet spout, from the mouth of which the nozzle or pipe protrudes with ample clearance to enable the efflux from the hole to pass into the receptacle. In order to prevent the blown swarf escaping into the atmosphere, a packing member or grommet is provided to afford a seal between the mouth of the spout and the surround of the hole.

In the diagram illustrated in Figure 2 a cylindrical receptacle (1), for the swarf, is detachably secured at one end to a standard unit (2) affording controlled delivery of compressed air from a hose (not shown) which is attached to the hollow handle (3). When the spring-loaded air-control valve (4) is opened, by pressing the trigger (5), the compressed air is delivered to a pipe (6) which passes axially through the receptacle (1), and to which a nozzle (7) is removably secured. This nozzle protrudes from a rubber grommet (8) carried by a semi-venturi tube (9) which is fixed, coaxially with the pipe (6), in the end wall (10) of the receptacle (1). Packing rings (11), arranged as shown, are clamped between a flange (12) on the tube (9) and a securing nut (13).

The nozzle (7) is inserted in the blind hole from which swarf is to be removed with the rubber grommet (8) pressed against the surround of the hole. Upon pressing the trigger (5) the compressed air that issues from the nozzle (7) blows the swarf through the annular space (14) and through the semi-venturi tube (9)

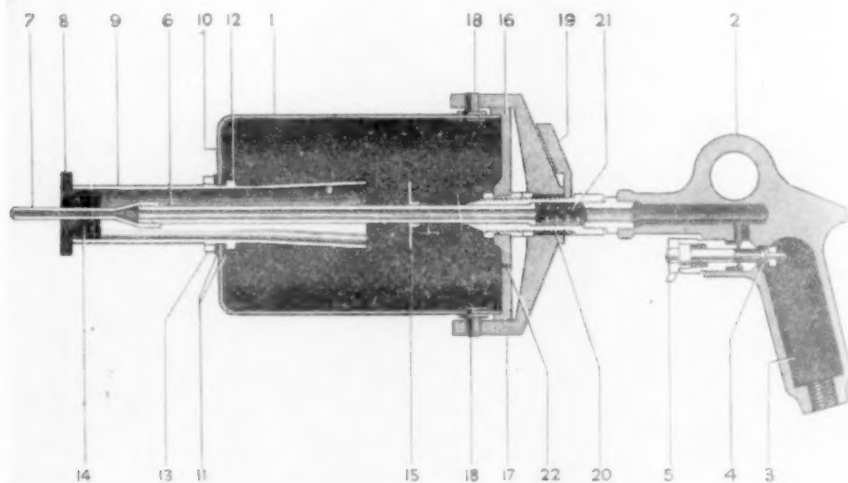


FIGURE 2. *Dust and Swarf Extractor for Blind Holes*
(Patent number 19215 55-2 July, 1955)

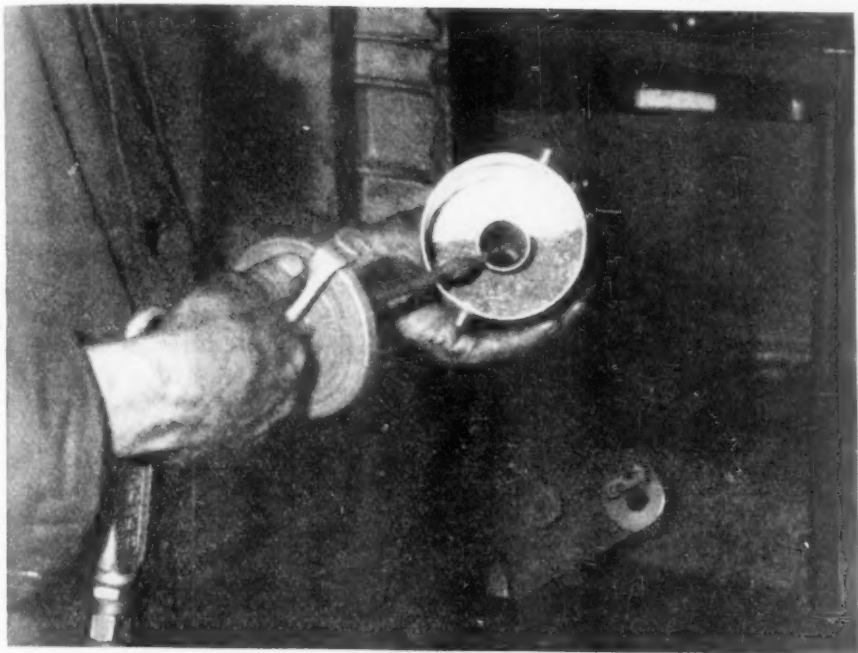


FIGURE 3. *The lid of the Dust Extractor is here removed, showing the small scarf and dust it has collected in the bottom half of the container*

into the substantially closed receptacle (1). The grommet (8) prevents the blown swarf escaping into the atmosphere, and a movable closure member is provided, such as a disc (15) slidably mounted on the pipe (6), to prevent the collected swarf from returning through the tube (9). The external diameter of the nozzle (7) must, of course, be small enough to afford adequate clearance within the hole for the passage of the ejected swarf.

In some cases the portion of the tube (9) projecting beyond the end wall (10) could be made shorter than indicated, the actual length depending upon the operating requirements. Also, by providing a screw-threaded connection between the nozzle (7) and the pipe (6), a longer nozzle can readily be fitted to cater for deeper holes.

The receptacle (1) is fitted with a detachable lid (16) fixed to a yoke (17), the ends of which are slotted for twisting engagement with trunnions (18) mounted on the receptacle (1). Clamping of the yoke (17) is effected by a quick-release lever (19) fitted to a screw-threaded sleeve (20). A buffer spring (21) is arranged, as shown, between the end of the pipe (6) and the unit (2). Also, a small orifice (22) is provided in the lid (16) to permit the escape of excess air from the receptacle (1).

Finally, this extractor works on 80 pounds pressure, but it has been tried out at 50 pounds and results have been satisfactory, to a depth of 4 inches, by using a screwed extension at (7).

A CHEAP FIRE ALARM SYSTEM

*A shortened version of the winning entry for the
Fothergill Prize for Fire Prevention or Fire Fighting*

by A. R. BROOMFIELD

Statistics reveal that in the six years from 1947 to 1952, only .02 per cent of all fires were notified by automatic fire alarm. These figures show the need of a cheap fire alarm system for smaller premises. Insurance Companies grant premium rebates to premises with automatic fire alarms, and it is desirable that the rebate shall pay for the cost of the installation over a reasonable period, say ten years. . . .

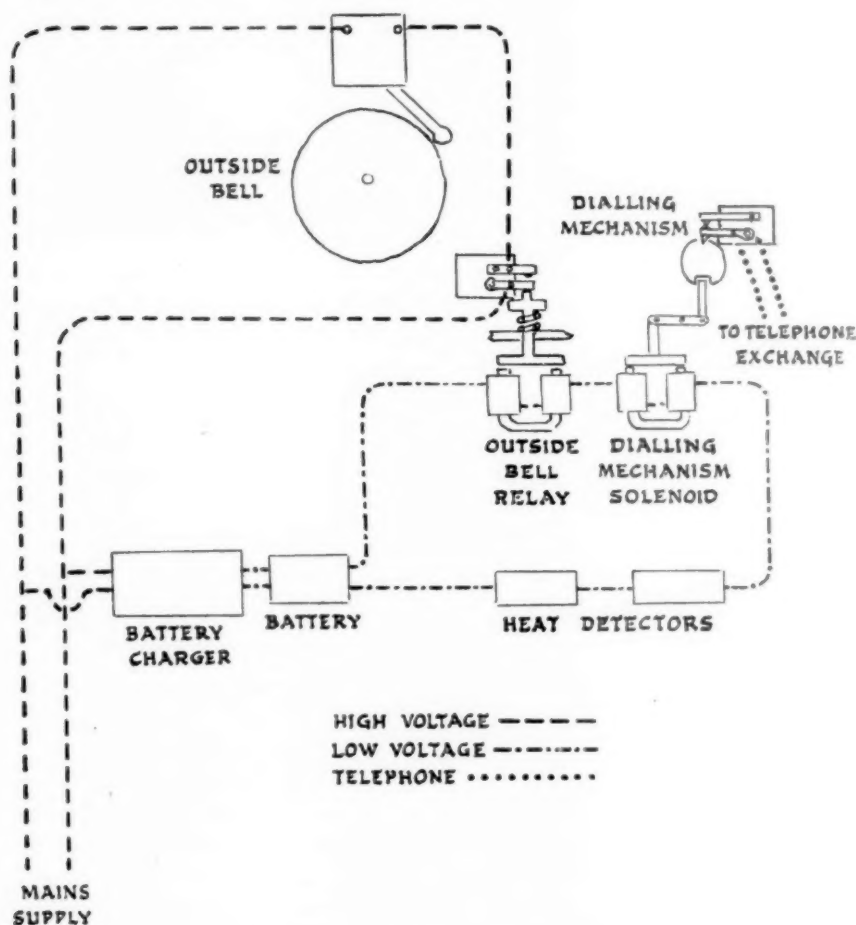


FIGURE 1. *A close-circuit fire alarm*

To reduce costs, private lines would have to be dispensed with, and for the link from the premises to the telephone exchange, the normal telephone lines would be utilized. . . .

The fire alarm system envisaged would work on the close-circuit principle. The heat detectors (thermostats) would consist of a bakelite base, and grilled cover, two terminals and a brass strip. The brass strip would be soldered across the terminals with a solder which would melt at about 120° Fahrenheit.

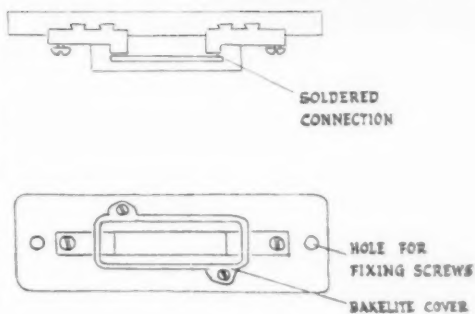


FIGURE 2. Heat detector for close-circuit fire alarm

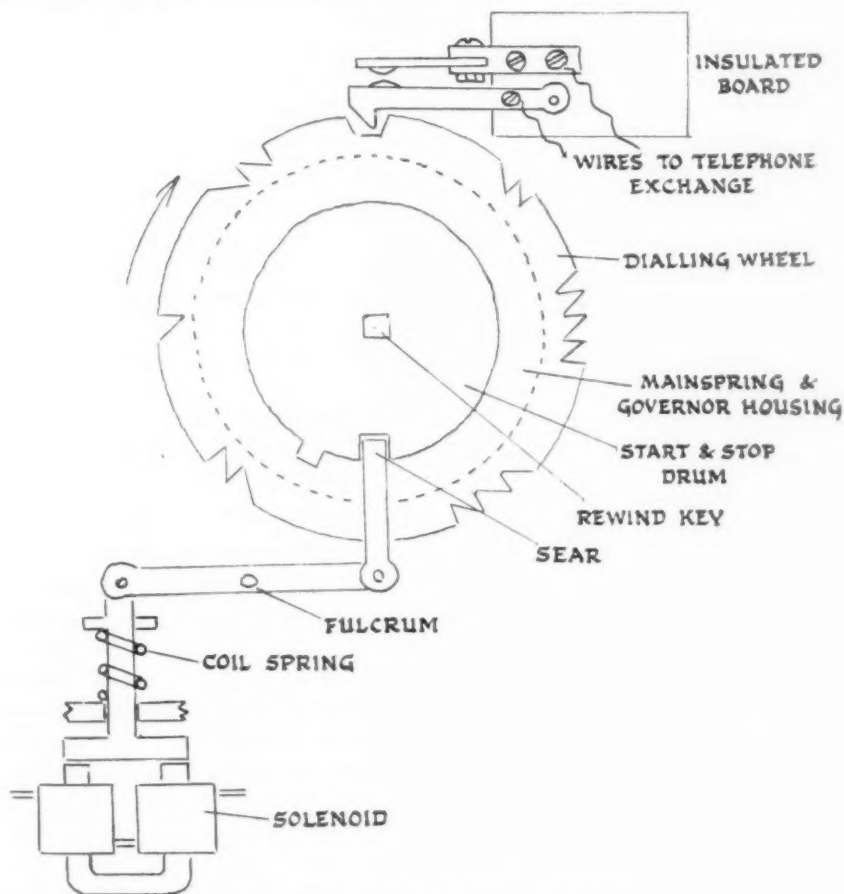


FIGURE 3. Proposed dialling mechanism. To dial 2123 and indicate alarm number 42

Unfortunately, such a solder costs £10 per pound, but the small quantity necessary would justify its use. Such a heat detector would not comply with the rules of the Fire Offices Committee, in responding to a rapid temperature rise of 40° Fahrenheit, but the Fire Offices Committee must modify its rule in the light of modern developments. . . .

To connect a call from the fire alarm to the fire station, a dialling mechanism will be necessary. This could operate in a similar manner to the street fire alarm call boxes, a break in the circuit causing a sear on a spring-loaded solenoid to withdraw and allow the mechanism to function.

It might be possible for the dialling mechanism to tap out a six-figure number, the first four digits being the number allocated to the fire alarm panel in the fire station control room, and the last two to indicate on that panel, by means of a light, from which installation the call originated. On this system up to 99 premises could be covered for every additional line from the exchange to fire station. The electrical circuit passing through the heat detectors would be maintained by a battery fed by a battery charger from outside mains. In addition to the dialling mechanism, a break in the circuit would release another solenoid, causing a mains-operated bell to ring outside the building.

FIRE-FIGHTING IN SHIPS : THE PROBLEM OF MAINTAINING SHIP STABILITY

*A shortened version of the Commended entry for the
Fothergill Prize for Fire Prevention or Fire Fighting*

by CHIEF OFFICER E. T. HAYWARD, O.B.E., M.I.FireE.

It is recognized by all concerned with ship building and operating that an outbreak of fire on a passenger liner is more difficult to deal with than a cargo vessel, principally owing to the fact that cabin accommodation can be likened to a honeycomb construction. The success of fire fighting measures in ships depends essentially on the ability of the fire fighters to locate the outbreak and hit it hard at close quarters. . . . It is absolutely essential that the seat of the fire be located quickly, but this is difficult for the following reasons:

- (a) The cabin accommodation and alley-ways leading thereto are rapidly and heavily smoke-logged.
- (b) The ventilation system must be closed down and this aggravates the task of detecting the seat of the fire.

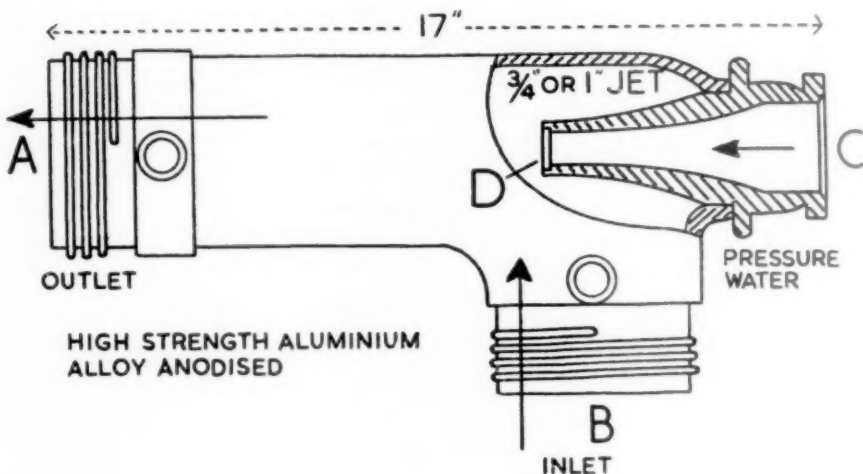
- (c) Breathing apparatus worn by firemen and members of ships companies will give protection against smoke, but will not afford cover against extreme heat.
- (d) Breathing-apparatus operators cannot see through very dense smoke, no matter how efficient their lamps are.
- (e) The honey-comb construction of cabin accommodation is often difficult to traverse and it is relatively easy for men to lose their way and walk away from a fire.
- (f) Communication between fire fighters equipped with breathing apparatus is extremely difficult.
- (g) The rapid spread of fire behind panelling, through trunking and the heating-up of metal bulkheads, brings added difficulties. . . .

All the practical facts outlined above mean that fire fighters are sometimes compelled . . . to introduce water into cabins or compartments without actually having located the exact seat of origin of the fire. This . . . brings in its train a serious and dangerous problem, that of the stability of the ship, which might well endanger the vessel as much as the fire itself. Water trapped above the water line in cabin accommodation is especially dangerous as it affects the centre of gravity of the ship . . . in fact the hazard may be so great as to necessitate the closing down of fire-fighting jets which, whilst preventing the disastrous effect of capsizing could result in the ship becoming a total loss.

A $\frac{3}{4}$ -inch fire-fighting nozzle at 50 pounds per square inch nozzle pressure discharges approximately 100 gallons per minute which represents about 26 tons of water per hour. Fifteen tons of water on an upper deck of a cross-channel steamer of 3,500 tons is sufficient to start a list. This means that, with only one jet in use, unless efficient means are available to remove some of the accumulated water, the vessel will start to list about thirty minutes after the commencement of fire-fighting operations. . . . I therefore considered it essential to produce a unit that would give a substantial discharge of water over average lifts and yet fulfil the following requirements:

- (a) The unit must be light and easily handled by one man.
- (b) The suction hose should be of Fire Service standard so as to prevent holding stocks of special equipment.
- (c) The unit should be of such a size that where a man could work a pump could be brought into operation.
- (d) The pump must be hydraulically operated to provide against exhaust fumes and the necessity of taking electrical power lines and petrol supplies aboard.
- (e) It must be self-priming and operate continuously without attention, as it might well be necessary to leave the pump operating in a heavily smoke-logged compartment of the ship.
- (f) A low-level suction strainer would be necessary and it must pass reasonable quantities of *débris* without damaging or clogging the pump.
- (g) The unit must be simple to operate.

I came to the conclusion that it should be possible to design an ejector pump specifically for Fire Service purposes. Although pumps on the ejector principle are many years old, it is a new feature for such pumps to be designed with standard Fire Service equipment for use principally on ship fires. . . . Following extensive tests of prototype pumps of various sizes which were constructed locally, it was decided that a 4-inch unit, having standard 4-inch round thread couplings was the most suitable as it was easily handled. The details of the unit, which is made of light alloy and weighs only nine pounds, are as follows:



- A: 4-inch round thread outlet to take 4-inch armoured hose.
- B: 4-inch round thread inlet to take 4-inch suction hose.
- C: 2½-inch diameter instantaneous coupling to take standard Fire Service delivery hose.
- D: ¾-inch or 1-inch priming nozzle. The nozzles are removable so that an appropriate size can be used consistent with requirements of the work in hand.

For use on a fire, the pump is placed in position with the requisite length of suction. The delivery is passed through a port-hole or shell door for discharging the trapped water outboard. With a nozzle pressure of 100 pounds per square inch, a powerful jet of water is passed over the suction orifice, which results in a substantial output of water.

The table below shows results of actual tests at various heights and in each case the output *excludes* the water discharged from the priming nozzle:

$\frac{3}{4}$ -inch nozzle—100-pound pressure

<i>Suction length</i>	<i>Mean lift</i>	<i>Discharge hose</i>	<i>Discharge gallons per minute</i>
8 ft.	6 ft. 6 ins.	15 ft. \times 4 ins.	307
16 ft.	14 ft. 6 ins.	15 ft. \times 4 ins.	272.5
24 ft.	22 ft. 6 ins.	30 ft. \times 4 ins.	252

1-inch nozzle; 100-pound pressure

<i>Suction length</i>	<i>Mean lift</i>	<i>Discharge hose</i>	<i>Discharge gallons per minute</i>
8 ft.	6 ft. 6 ins.	15 ft. \times 4 ins.	350
16 ft.	14 ft. 6 ins.	15 ft. \times 4 ins.	285
24 ft.	22 ft. 6 ins.	30 ft. \times 4 ins.	272.5
32 ft.	30 ft. 6 ins.	30 ft. \times 4 ins.	140

These tests were made by using a steel tank of 280-gallons capacity and provision of a separate water supply for the priming jet, the time taken to empty the tank being measured by a stop-watch. Higher outputs have been obtained at the same lifts but this was due to variations in the barometric pressure when the tests were made.

These pumps are not suitable for pumping against head, but are efficient when lifting water and discharging it with the delivery hose outlet within a reasonable level of the pump. The most efficient method is to arrange, if possible, for the delivery outlet to be at the level of, or lower than, the water to be removed in order to take advantage of the siphon action once the pump is primed. Over average lifts a $\frac{3}{4}$ -inch nozzle is the most economical size to use and with a lift of 8 feet the output of this pump is approximately 300 gallons per minute, which is equivalent to 80 tons per hour—quite a consideration in ship fire fighting. Vertical lifts up to 30 feet have been obtained quite easily with a 1-inch nozzle, but at this height the output is naturally reduced. It should be remembered that in the average liner the height of the port-hole from the deck rarely exceeds 7 feet and, even if the pump is to be operated from the deck above, this height rarely exceeds 16 feet.

A test of this pump has been witnessed by officials of the Home Office and representatives of Shipping Companies. Members of the Ship Building Conference also witnessed a range of tests at Southampton which were completely successful.

GENERAL NOTES

THE ROYAL ACADEMY AND OTHER EXHIBITIONS

Every Winter Exhibition of the Royal Academy must to some extent disarm, or at least modify, such criticism as is normally applied to other exhibitions. No other national institution in the world, one has to remember, annually disposes of another nation of its art treasures, as the Academy does, for the delectation of its own. Nor is the advantage by any means on one side only, since a strengthening of cultural and (more mysteriously) political ties must surely result from this generous co-operation.

While such considerations, then, must clearly predispose art critics in favour of these great collections, they may nevertheless observe a recent tendency to gather these collections rather haphazardly, and arrange them in an erratic and sometimes overcrowded way, with the result that particular masterpieces have not 'told' as they should have done. That this is no longer a vexation is due to the wisdom of appointing a single scholar, Professor Reynaldo dos Santos, to select and arrange—as he has done most imaginatively—the Academy's present exhibition of Portuguese paintings, sculpture, and more elaborate objects of art, representing the legacy of ten centuries from the year 800. If Professor Richardson's Presidential term is extended, as now appears possible, it is to be hoped he will carry on with this wise and disinterested arrangement, and continue to commission, as he has done now, such informed introductions as the catalogues to the Winter Exhibitions clearly demand.

Both specialists and public, then, should be more than satisfied with the most comprehensive display of Portuguese art ever assembled, which occupies the left-hand wing of the Academy, including the sixth gallery and central hall, the remaining rooms awaiting a forthcoming exhibition to illustrate English taste in the eighteenth century. No doubt Portugal's most important and distinctive contribution to the arts is her architecture, and a room of superlative photographs reminds us of her Romanesque, Manueline, and Baroque triumphs, and the Gothic splendours of the great monasteries of Batalha and Alcobaça. Particularly expressive of an age of Portuguese discovery was the Manueline style evolved in King Manuel's reign (1495 to 1521) in which a revived Romanesque is overlaid by spirited decoration often based on nautical *motifs*. In the main gallery this style is reflected in dishes, salvers, and other precious vessels, whose exuberant decoration never seems to abuse the form, even in an object as ornate as a silver ewer encrusted with thistles and artichoke leaves.

Elsewhere, one is constantly made aware of the cosmopolitan nature of the Portuguese arts. Flemish commerce brought cultural interchanges; and, already in the 1460s, the great polyptych of St. Vincent by Nuno Gonçalves is of Flemish character, the frieze of representative and acutely characterized figures, including that of Henry the Navigator, approximating to the realism, say, of Hugo van der Goes. No other painting here can compare in importance with this intricate, yet entirely coherent work, though Figueiredo, active in the next century, is worth remarking as seeming to foreshadow Velasquez in two portraits in an Entombment picture which otherwise attempts to reconcile a severe quasi-sculptural mode with minute attention to details. In Sequeira—who also designed the trophies presented by the Regent John VI to the Duke of Wellington—one is again reminded of Spain, Sequeira's portrait style having an evident affinity with that of Goya, his contemporary.

Undoubtedly, the most powerful of the sculptures is the mediæval *Christ on the Cross*, which towers in the centre of the first room and almost overwhelms the spectator by its initial impact. It is an unknown sculptor who conceived this brooding image, gaunt and withdrawn; and two French emigrants, Odarte and Chanterene, who

arrest and hold one next, before one comes on the Portuguese rhetorical style exemplified in a seventeenth-century reredos from Coimbra, and other Baroque works smaller in scale, if hardly less extravagant. With Queen Maria Francisca's gilded and painted Baroque coach, drawn up in the Octagon, the exhibition closes, leaving the visitor with two paramount impressions—of the sumptuousness of this heritage, and its variety that defies any attempt to trace an unadulterated strain, down the centuries, that could properly be called essentially Portuguese.

Three rooms of the Tate Gallery at present celebrate the intermittent genius of Mr. Stanley Spencer, who contributes a self-revealing preface to the catalogue of over eighty paintings, gathered by the Gallery, and dating from 1910 to a Cookham landscape completed by the artist last year. Early in his career, he confides, 'the drawing or painting of the thing was the experiencing of Heaven', and this 'state of sureness' continued to about 1923. Who, indeed, can doubt, in that furthest room containing the early visions as haunting as *The Nativity* or *Zacharias and Elizabeth*, a reawakening of the mediaeval spirit of wonder and ecstasy? Hardly less intense were Spencer's experiences of the first Great War; and his painting of wounded at a Macedonian dressing station, from the Imperial War Museum, is a most poignant record of this period. One detail in this picture, of a hand grotesquely enlarged in a sling as if it had assumed the exaggerated proportions in the injured soldier's mind, shows the artist's imaginative sympathy, and throughout the exhibition one is, in fact, continually taken aback by the intensity with which he will translate some remembered experience.

That Mr. Spencer is a true visionary, everyone who has meditated his *Resurrection* and *Burghclere* paintings will surely agree. But there is no doubt that the artist has found it increasingly difficult to recover his earlier mystical spirit; and some fragments from his recent cycle of pictures, illustrating the reactions of riverside listeners to Christ's preaching, are sometimes distorted in a way that may very well seem mannered rather than truly significant. The fault would seem to be society's in obliging him to interrupt his great schemes with pot-boilers; and one might add the Church's long neglect, if one did not realize the natural uneasiness of its laity confronted with a style so bizarre, however inspired. Meanwhile this memorable exhibition remains until 18th December, to bear witness to the strange powers of an artist fated to be born in our age and not those Middle Ages to which he spiritually belongs.

Another exhibition of particular interest is the Leicester Galleries' assemblage of recent sculptures by Mr. Henry Moore, supported by new pictures from Mr. Merlyn Evans and Mr. Denis Mathews. Mr. Moore is, of course, another example of an artist unable to devote himself wholly to his major projects, this time owing to official duties; and possibly only one sculpture at the Leicester can be said to show his powers at their fullest stretch. This is a great undulating elm, hollowed out and enfolding a form within, which in imagination's eye becomes a symbol of the tree's renewal, or a moment later a child maternally embraced. One need only mentally compare *Upright Exterior and Interior forms*, as the carving is bleakly styled, with Barbara Hepworth's forms to appreciate the difference in their stature, and to understand how it is that through such works, growing and maturing out of prototypes, Moore has acquired his international reputation. Perhaps the only other work (or rather, work in progress) of especial interest to students is a projected wall relief for Rotterdam, in which Moore reverts to Mexican, Columbian, flint, and other primitive motifs for ideas.

A last word is due to Mr. Merlyn Evans' new paintings here of fantastic creatures in dynamic motion, in which the colour is more integrated, and the forms more imaginatively disposed in depth, than we have yet seen from this inventive artist, and Mr. Mathews' delicate drawings over a monotype base of the cellars and vineyards of Burgundy.

NEVILLE WALLIS

RESEARCH AWARDS

Applications are invited for Leverhulme Research Awards for Fellowships or Grants in aid of research. The awards are intended for senior workers and are limited to British-born subjects normally resident in the United Kingdom. Although no restrictions are placed on the subjects of enquiry, preference will be given to those in which existing provision for research is inadequate. The duration of the awards varies from three months to two years. The closing date for applications is 31st December, 1955, and further particulars and application forms are obtainable from: The Secretary, Leverhulme Research Awards (F), St. Bridget's House, Bridewell Place, E.C.4.

EXHIBITION OF ALUMINIUM IN BUILDING

An Exhibition illustrative of the potentialities of aluminium in buildings is at present on view at The Building Centre, 26 Store Street, W.C.1. The Exhibition will remain open daily from 10 a.m. to 5 p.m. until Wednesday, 30th November. Admission is free.

CORRESPONDENCE

THE COMMONWEALTH AS A SOURCE OF ESSENTIAL OILS

From MR. C. S. CREE (CONSERVATOR OF FORESTS, BRITISH HONDURAS), SEAHOUSES, NORTHUMBERLAND.

I refer to Mr. M. F. Carroll's paper on 'The Commonwealth as a Source of Essential Oils', and the discussion which followed, as recorded in the *Journal* for 15th August, 1955.

It is not accurate to say that the pine forests in British Honduras have been decimated. Certainly, large areas of pine forest have been and are being exploited for saw-timber, and have been subject to uncontrolled grass fires which have done much damage. In very limited areas pine has indeed been destroyed, but very large tracts of pine remain on the coastal plain and in the mountains which have been exploited but are still potentially valuable forest, requiring only protection from fire to regenerate naturally and recover full stocking.

Before the war, attempts to market both pine lumber and pine resin from British Honduras proved unsuccessful. They could not compete with the cheap and plentiful supplies of American lumber and naval stores which were then on the market. The existing pine sawmilling trade grew up entirely in the years following the war, largely thanks to sterling area currency difficulties and the resulting closure of the West Indies to hard-currency soft woods. The need for intensive protection and regeneration of the forests became apparent as exploitation expanded. Successful small-scale experimental plantings from 1943 onwards led to the formation and eventual approval of the planting programme now in progress, under which a total of 2,400 acres had been planted by the end of 1954, the annual planting rate having increased to 580 acres in that year. This rate of planting represents a potential annual yield at maturity of more than two million cubic feet of pine timber, which is more than the present average annual cut. In 1954, the total pine cut was 1,850,000 cubic feet only. Parallel and in the long run more important schemes for the natural regeneration of exploited pine woodlands by fire protection have also been started. In spite of some losses in the protected regeneration areas in the widespread fires which occurred in the unusually dry spring this year, the natural regeneration areas show great promise. Plans for the period up to 1960 provide for the continuation and expansion of pine planting to about 1,000 acres per annum, and of natural regeneration work to cover 20,000 acres. These plans have been provisionally approved and are

to be financed as is the present programme largely from Colonial Development and Welfare funds from the United Kingdom.

Resin tapping trials conducted in 1953 and 1954 on a small scale showed that local tappers could produce as much resin per man as those in the United States. Costs were very high, because of the small scale of the experiment, inexperience, and delays which meant that the main work was done in the wet season rather than in the more favourable dry weather. About two tons of the oleo-resin produced was tested in England by firms collaborating with the Colonial Products Laboratory (see *C.P.L. Bulletin*, Vol. IV, No. 3). Turpentine yielded was found to be up to American standards and was declared readily saleable. The problem is very largely an economic one; a possible solution might be to establish a small distillery and firms contemplating such an investment can be certain that the British Honduras Government will help them with well-planned projects.

Surely large-scale commercial pine afforestation, coupled with sustained-yield integrated exploitation for saw-timber, poles, pulpwood and resin, is the true main road to prosperity for British Honduras, and one for which the present Government projects, pilot schemes and surveys are providing clear sign-posts. Turpentine has a part to play, but perhaps a secondary one to wood-pulp, the industry which has in a generation so transformed the rural economy of the south-eastern United States, to which we are geographically and ecologically close.

Finally, I do not understand Mr. Carroll's remark that 'no forestry officer was available'. Since the early 1920s, the British Honduras Forest Department has continuously carried a staff of at least two, and usually three, university trained forest officers; present staff includes five such officers. If Mr. Carroll meant that no forest officer was made available to show him round, I can only say that I would be very glad of an opportunity to remedy such an omission, and to show him what we have done so far with pine and what we are trying to do.

NOTES ON BOOKS

ART IN BRITISH ADVERTISING. *A Special issue of 'Art & Industry', November, 1955.*
25 6d

Some people felt a not unreasonable alarm when the early rumours of the Art in British Advertising Exhibition, opening at the R.B.A. Galleries on 21st November, first reached their ears. And alarm may well have been tinged with despondency when it was heard that aesthetic value was to be the sole criterion for selection, the value of the complete work as effective advertising playing no part in the selection committee's assessment. Was this to be just an exhibition of easel paintings bought or sponsored by big business, a collection of pictures framed by typographers and over or under written by copywriters? If so, it was argued, the net result must be a disservice to British advertising, for have not the genuine protagonists of advertising art for years been ramming home the need for a thorough integration of the artist in advertising? Was not that what the famous A.G.I. exhibition in Paris stood for—not the separation of artist and advertiser? And what, one wondered, was Ashley Havinden, the President of the British Section of the Alliance Graphique Internationale doing in lending his name as President of the Advertising Creative Circle to this other exhibition?

The exhibition in question is not yet opened, so it is too early to say whether such fears were well founded, but the November issue of *Art & Industry* goes far towards dispelling them. This magazine, which has for nearly thirty years upheld the cause of art and design in industry and commerce, has devoted a special issue to the subject of the exhibition at the R.B.A., and in every article the point is well made that art is not to be separated from the real purpose of an advertisement.

The Editor in his leading article refers to the question whether art can be judged without regard for its functional purpose; Ashley Havinden in his account of the origins of the exhibition emphasizes that the choice of an æsthetic standard was not due to any wish to avoid acknowledging the practical purpose of all advertising; George Plante, art director of Young & Rubicam, writes 'If the artist tackles a commercial assignment *only* as a temporary expedient so that he can rush back to his painting, it isn't surprising that the results are unsatisfactory to both the artist and the advertiser'; and John Yeoman makes the same point with his 'Advertising art is not something done to buy leisure for "more serious" work. It is a worthwhile job that requires the complete understanding of an exacting medium'.

Both Mr. Plante and Mr. Yeoman recognize the existence of a conflict between artist and advertiser but both maintain that this is resolvable at a price, the former believing that if the fine artist wants to work in advertising then he must make the effort to know something about the business, the latter that until the client gives the advertising artist the same confidence that he extends to his portrait painter, he will get the kind of advertising he deserves, but not the kind he needs.

The problem is certainly well grasped in this issue of *Art & Industry*. The excellent colour illustrations, giving a selected preview of the exhibition, suggest that the organizers have also not shirked it. The presence of Dr. W. J. Worboys, a prominent industrialist and keen gallery-goer, on the distinguished judging panel should guarantee a proper blend of art and advertising and so justify *Art & Industry's* enterprise in scooping the story of the exhibition.

PAUL REILLY

PRACTICAL PLANT PROTECTION. By E. Holmes; with a Foreword by Sir James Scott Watson. Constable & Co., 1955. 15s

It has become increasingly obvious to-day that the loss of crops from the depredations of pests, diseases and weeds is something the world can ill afford. The practical farmer is also aware that he cannot afford these losses either, but, as Sir James points out in his foreword, is apt to become confused by the wide variety of methods which may be used to overcome these troubles. The confusion is particularly great in the field of crop protection chemicals—many of them with names which to the farmer sound like German philosophical systems. *Practical Plant Protection*, by Dr. E. Holmes, cuts a way very clearly through the jungle of technical terms which has grown up around this subject. Latin names of pests are only used when it is essential to do so and complicated chemical names are given once and then referred to by their shortened common names—a simplification which is both desirable and precise. The book thus becomes a thoroughly sound practical guide to all fields of plant protection from a man who has a very wide experience of it in both its scientific and practical aspects.

Although the book tends to emphasize the chemical methods, the other methods are not neglected and in practice, with the exception of the use of resistant varieties, it is the chemical methods which to-day are most used.

There is a suspicion in the minds of some people that pests and diseases are now worse than they were in the past, and that this is due to the adoption of modern mechanized farming: the author is at pains to examine this contention and finds that this is by no means the case. This is illustrated by direct reference to these troubles in old writings (such as Gilbert White's descriptions of flea beetle attack on turnips) and the fact that relatively low yields per acre were obtained in the past.

The book is an amazing demonstration of conciseness and this very practical advantage does mean, of course, that it is not an easy work to read. It is concerned mostly with conditions in Britain, though the general principles apply to other countries and climates, and it is obviously a book which should be at every farmer's hand. He cannot possibly have a better guide to the elimination of pests, diseases and

weeds from the adverse side of his balance sheet. It is possible to turn to almost any page at random and find an admirable summary of the damage caused by the pest, the history of methods of dealing with it, and modern recommendations. A particularly good example is in Chapter VII, where the complicated wireworm situation is dealt with in some five pages.

The only points of criticism that one can make are very minor. For instance, in dealing with hops, the author has got the needle on the wrong end of the hop bug and one is not quite sure as to what he means by 'tall oil' in his description of the tar oil winter washes, but these are unimportant details.

This book has been written for the practical man and there is no doubt that there is no better guide to practical plant protection.

GEORGE ORDISH

CHELSEA. By William Gaunt. Batsford, 1954. 18s

Chelsea has little of beauty and a book about it must rely on history rather than description. Nor will the illustrations be able, as they do so often in Batsford books, to stand on their own. Happily, Mr. Gaunt's text is enough. He mentions many buildings, but is more concerned with the inhabitants than the building itself. In places this causes the account to read like a succession of London County Council plaques, but where interesting people are concerned—and there were many—the book is very entertaining.

Chelsea first came into history as a health resort. The Earl of Essex went down to Chelsea in 1599 (the author is fond of dates) 'where he purposed to be sicke'. St. Thomas More, too, the first illustrious resident, chose it for the good of his children's health. As London expanded, its character changed and it became a suburb. Pleasure gardens similar to Vauxhall were built at Ranelagh and were for a time so successful that Horace Walpole records: 'My Lord Chesterfield is so fond of it that he says he has ordered all his letters to be directed thither'. A French visitor was less enthusiastic: 'The pomp and splendour of a Roman amphitheatre are devoted to no better use than a twelve penny entertainment of cold ham and chicken'.

It soon closed down and Chelsea has remained ever since a place to live in rather than go to. It is on its inhabitants that Mr. Gaunt concentrates. Swift lived there while the change from country to town was beginning; he called the 'haymaking nymphs' perfect drabs. Carlyle, too, was worried by his neighbours' cocks. He built a soundproof room in the attic with a multiplicity of cupboards. An admirer made his way to the top of the house only to be ignored by Carlyle, who sat at his desk writing. At length, in confusion, muttering apologies, the visitor backed to the door and found himself in a cupboard. He tried another with the same result: embarrassment grew frantic. After the third attempt, the great man pointed without looking up: 'There, sir, is the door'.

The artists came next: Turner; Rossetti, whose peacocks caused so much disturbance to the neighbours that Lord Cadogan (whose ancestor was lucky enough to marry Sir Hans Sloane's daughter) inserted a 'no peacock' clause in future leases; Holman Hunt, who chose his home because his front room made an admirable setting for his 'Druid subject' (*Christians escaping from persecuting druids*); Whistler, and many others. Mr. Gaunt has good stories to tell of them all and he has filled out the book with a chapter on 'Chelsea Characters' of whom there were many, for then, as now, it required eccentricity to live in Chelsea and then, alas no longer, it required little money. Charles Augustus Howell, indeed, lived on his thefts from his friends—even going so far as to sell a sketch by Whistler of Brompton Oratory as Michelangelo's original design for St. Peter's.

The book is full of such stories and there could be nothing but praise for it were the architectural side adequately covered. True each building is mentioned, but

apart from a series of photographs of Cheyne Walk and Cheyne Row, there is none of any private house, not even of Argyll House which Mr. Gaunt praises.

MICHAEL KNIBBS

SHORT NOTES ON OTHER BOOKS

MATHEMATICS IN ACTION. By O. G. Sutton. Bell, 1954. 16s

This account of applied mathematics and its influence on modern ideas concerning the nature of the physical universe supplies a general view of the subject. Many of the matters dealt with are still in the research stage, but the account is simple, and well illustrated with diagrams.

ROMAN BRITAIN. By I. A. Richmond. Penguin Books, 1955. 2s 6d

This is the volume one in the Pelican *History of England*. It gives a general picture of many aspects of Britain as a Roman Province, the organization of the province being dealt with in considerable detail. There are eight pages of plates.

LIBRARY ADDITIONS

CRAFTS AND LIGHT MANUFACTURES

SOWERS, ROBERT—The lost art: a survey of one thousand years of stained glass. . . . *Lund Humphries*, [1954].

WENHAM, EDWARD—Antiques A to Z: a pocket handbook for collectors and dealers. . . . Bell, 1954.

LITERATURE AND AUTHORSHIP

EVANS, BENJAMIN IFOR—Literature and science. *George Allen & Unwin*, 1954

PAINTING, DRAWING, SCULPTURE AND ENGRAVING

AYRTON, MICHAEL—Degas. Vol. 2. *Faber*, [1953].

GIRTIN, THOMAS and LOSHAK, DAVID—The art of Thomas Girtin. *Adam and Charles Black*, 1954. Presented by Thomas Girtin.

FARLEIGH, JOHN—Engraving on wood. *Leicester, Dryad press*, 1954.

LAMB, LYNTON—Preparation for painting: the purpose and materials of the artist. *O.U.P.*, 1954.

LONDON, HUGH STANFORD—The Queen's beasts: an account with new drawings of the heraldic animals which stood at the entrance to Westminster Abbey on the occasion of the Coronation of Her Majesty Queen Elizabeth II, 2nd June, 1953. . . . illustrated in colour by Edward Bawden and Cecil Keeling and by photographic reproductions of the heraldic figures sculptured for the Coronation by James Woodford. *Newman Neame*, 1954.

MALRAUX, ANDRE—Le musée imaginaire de la sculpture mondiale: [I, La statuaire des origines à 1900;] (II, Des bas-reliefs aux grottes sacrées). *Paris, nrf, Galerie de la Pléiade*, 1952–1954.

WILENSKI, REGINALD HOWARD—Toulouse-Lautrec (1864–1901). . . . *London, Faber*, 1955.

HISTORY AND TOPOGRAPHY

CENTRAL OFFICE OF INFORMATION—Britain: an official handbook. [1954 ed.] *H.M.S.O.*, [1954].

LEWIS, ROY—Sierra Leone: a modern portrait. *H.M.S.O.*, 1954.

PEYSNER, NIKOLAUS—Cambridgeshire. *Harmondsworth, Penguin books*, 1954.

SCOTT-GILES, CHARLES WILFRID—Civic heraldry of England and Wales; illustrated by the author. Revised edition. *Dent*, 1953.

DAVIES, DAVID W.—The world of the Elseviers, 1580–1712. The Hague, *Martinus Nijhoff*; [London, *Batsford*], 1954.

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LIBRARY ADDITIONS

- GHURSHMAN, ROMAN—Iran from the earliest times to the Islamic conquest. *Harmondsworth, Penguin books, 1954.*
- GLOAG, JOHN—The American nation: a short history of the United States. . . . Revised and enlarged ed. *Cassell, 1955.* Presented by the author.
- LLOYD, SETON—Foundations in the dust: a story of Mesopotamian exploration. *Harmondsworth, Penguin books, 1955.*
- LONDON AND ITS ENVIRONS DESCRIBED—Containing an account of whatever is most remarkable for grandeur, elegance, curiosity or use, in the city and in the country twenty miles round it. *London, printed for R. and J. Dodsley, 1761.*
- RICHMOND, IAN ARCHIBALD—Roman Britain. *Harmondsworth, Penguin books, 1955.*

MUSIC AND THEATRE

- ALTMAN, GEORGE, and others—Theater pictorial: a history of world theatre as recorded in drawings, paintings, engravings, and photographs. *Berkeley, Calif., University of California press, 1953; London, C.U.P., [1954].*
- LISTER, RAYMOND—The Muscovite peacock: a study of the art of Leon Bakst; with a memoir by Simon Lissim. *Meldreth, Cambs, Golden Head press, 1954.*

FINE ARTS

- BELL, DAVID—The language of pictures. *Batsford, 1953.*
- BUSHELL, STEPHEN W.—Chinese art. . . . *H.M.S.O., 1904.*
- DARK, PHILIP JOHN CROSSKEY—Bush Negro art: an African art in the Americas. *Alec Tiranti, 1954.*
- SAXL, FRITZ and WITTKOWER, RUDOLF—British art and the Mediterranean. *O.U.P., 1948.*

FROM THE JOURNAL OF 1855

VOLUME III. 2nd November, 1855

SOCIETY'S LIST OF LECTURERS.

Sir,—The Committee of the Pembroke Dock Mechanics' Institute having seen Mr. Charles F. Partington's name and address in the Society's List of Lecturers, which he describes himself as lecturer to the Royal Panopticon, arranged for the delivery of a lecture on receipt of a prospectus bearing the same name and address. The result, as explained in the following notice from the *Pembrokeshire Herald*, was hardly fair towards either the Society of Arts or the Institute.

Yours obediently,

N. Z.

"LECTURE AT PEMBROKE-DOCK.—The members of the Pembroke-Dock Mechanics' Institute were sadly disappointed on Monday and Tuesday evenings. The person who undertook to lecture on "The Resources of Modern Warfare", turned out *not* to be Mr. Partington of the Royal Panopticon, who was expected, but his son or nephew, a young gentleman who in appearance is scarcely out of his teens. He occupied the time of the audience on the first evening by reading a dull prosy outline of the history of the Crimea and its invasion by the Allies, up to the fall of Sebastopol. His lecture was by no means enlivened by a stammering indistinct utterance and incorrect pronunciation. On the following evening he attempted to illustrate, with the aid of a few explosive chemicals, the principle of the Russian infernal machines, etc., leaving, however, his audience very little wiser on the subject than they were before. The Institute has unhappily not hitherto been very successful with its *paid* lecturers'.—*Pembrokeshire Herald*, Oct. 26, 1855.

Some Activities of Other Societies and Organizations

MEETINGS

- MON. 14 NOV.** Apothecaries of London, Society of, Black Friars Lane, E.C.4. 4.30 p.m. (1) Samuel Oram: *Valvular Disease of the Heart, with special reference to causes for operation*; (2) Sir Russell Brock: *The Surgery of Valvular Disease of the Heart*.
- Electrical Engineers, Institution of, Savoy Place, W.C.2. 5.30 p.m. P. Dunsheath: *Is the Engineer Broad enough in his Outlook?*
- Geographical Society, Royal, S.W.7. 5 p.m. R. A. Hamilton: *Scientific Research by the North Greenland Expedition*.
- Packaging, Institution of, at the Flying Horse Hotel, Nottingham. 7.30 p.m. A. H. Cragg: *A Printer Looks at Packaging*.
- Transport, Institute of, at 66 Portland Place, W.1. 5.45 p.m. S. D. Sargent: *International Aspects of Postal Services*.
- TUES. 15 NOV.** Chemical Engineers, Institution of, at Burlington House, W.1. 5.30 p.m. J. F. E. Adams and A. E. Baker: *An Assessment of Dry Blending Equipment*.
- Electrical Engineers, Institution of, Savoy Place, W.C.2. 6.30 p.m. (1) D. L. Holloway: *An Electrolytic Tank Equipment for the Determination of Electron Trajectories, Potential and Gradient*; (2) J. H. Westcott: *A Method of Tracing Electron Trajectories in Crossed Electric and Magnetic Fields*.
- Foundrymen, Institute of British, at the Central Hall, Public Library, Ipswich. 7.30 p.m. J. L. Francis: *Casting Defects*.
- Industrial Transport Association, at the Royal Society of Arts, W.C.2. 6.30 p.m. C. G. Chantrell: *Mechanical Handling Problems and Methods*.
- Mechanical Engineers, Institution of, 1 Birdcage Walk, S.W.1. 5.30 p.m. L. Gilling Smith and C. J. Williamson: *The Development of a Mechanical Draught Water-cooling Tower*.
- Modular Society, at the Royal Institute of British Architects, 66 Portland Place, W.1. 7 p.m. Lennart Bergvall: *Modular Co-ordination—an industrial tool*.
- WED. 16 NOV.** ASLIR, at the Royal Society of Arts, W.C.2. 6 p.m. Dr. E. J. Crane: *The Chemical Abstracts Service and its Plans*.
- Chemical Engineers, Institution of, at The University, Leeds. 7 p.m. S. H. Griffiths: *Recent developments in pressure vessel construction*.
- Electrical Engineers, Institution of, Savoy Place, W.C.2. 6.30 p.m. R. A. Grierson: *Thermal Rating of Transformers*.
- Foundrymen, Institute of British, at the Waldorf Hotel, W.C.2. 7.30 p.m. A. Tipper: *Production of Cores and Moulds in British Foundries by the CO₂ Process*.
- Iron and Steel Institute, at the Seymour Hall, St. Marylebone, W.1. 6 p.m. Sir Robert Shone and W. F. Cartwright: *Russian Iron and Steel Industry*.
- Locomotive Engineers, Institution of, at 1 Birdcage Walk, S.W.1. 5.30 p.m. K. J. Cook: *Railway Breakdown Organisation and Equipment in use on the London Transport System*.
- Photographic Society, Royal, Princes Gate, S.W.7. 7 p.m. H. A. Murch: *Mountains and Pictorialism*.
- William Morris Society, at the Art Workers Guild, 6 Queens Square, W.C.1. 7.30 p.m. John Brandon-Jones: *Philip Webb and the Architect-Designers of Morris and Company*.
- THURS. 17 NOV.** Chemical Society, at the Imperial College of Science and Technology, S.W.7. 7.30 p.m. Prof. D. H. Everett: *Some Developments in the Study of Physical Adsorption*.
- Electrical Engineers, Institution of, Savoy Place, W.C.2. 6.30 p.m. (1) C. Cuthbert and D. A. Picken: *Timing the Operation of Control Systems Associated with Rotating Equipment*; (2) D. Harrison: *The Dynamic Breaking of Induction Motors*.
- Photographic Society, Royal, 16 Princes Gate, S.W.7. 7 p.m. W. F. Berg: *Unusual Photography*.
- Public Health Engineers, Institution of, at Caxton Hall, S.W.1. 6 p.m. R. Wilkinson: *The Quality of Rainfall Run-off Water from a Housing Estate*.
- The Royal Society, Burlington House, W.1. 4.30 p.m. Dr. R. A. Smith: *Physics at the Radar Research Establishment, Malvern*.
- Textile Institute, at Technical College, Coventry. 7 p.m. David T. D. Clarke: *Costume through the Ages*.

- FRI. 18 NOV.** Mechanical Engineers, Institution of, 1 Birdcage Walk, S.W.1. 5.30 p.m. Prof. D. M. Newitt: *Properties of Matter at High Pressures*.
- Photographic Society, Royal, Princes Gate, S.W.7. 7 p.m. E. Gordon Barber: *Colour in the Mediterranean*.
- Royal Institution, 21 Albemarle Street, W.1. 8 p.m. C. F. A. Pantin: *The Primitive Nervous System*.
- Textile Institute, at the Council Chambers, Town Hall, Preston. 7.30 p.m. D. N. Jones: *Textiles in the Detection of Crime*.
- MON. 21 NOV.** Electrical Engineers, Institution of, Savoy Place, W.C.2. 6.30 p.m. E. P. Wethey: *The Reception of Band I and Band III Television Programmes*.
- Packaging, Institution of, at the Imperial Hotel, Birmingham. 6.45 p.m. T. H. Angel: *Aluminium Foils and Foil Laminates*.
- TUES. 22 NOV.** Decorators, Incorporated Institute of British, at the College of Preceptors, 2 Bloomsbury Square, W.C.2. 6.30 p.m. Graham Webster: *The Symbolism of Colour*.
- Illuminating Engineering Society, at 2 Savoy Hill, W.C.2. 6 p.m. T. Cotton: *Ship Lighting*.
- Japan Society of London, at the Victoria & Albert Museum, S.W.7. 5.30 p.m. Sister Theodora: *Some Aspects of Post-War Life in Japan*.
- Kinematograph Society, British, at Film House, Wardour Street, W.1. 7.30 p.m. *Examples of Recent 16 mm. Film Productions*.
- Petroleum, Institute of, at 26 Portland Place, W.1. 6 p.m. C. A. Samuels: *Operation of a Tanker Fleet*.
- WED. 23 NOV.** Electrical Engineers, Institution of, Savoy Place, W.C.2. 6.30 p.m. J. S. Mozerhøj, A. M. Morgan, and C. T. W. Sutton: *Flat Pressure Cable*.
- Photographic Society, Royal, Princes Gate, S.W.7. 7 p.m. Percy W. Harris: *Sub-Minature Cameras and their Problems*.
- Secretaries, Chartered Institute of, at the Royal Society of Arts, John Adam Street, W.C.2. 6.30 p.m. C. M. Schmitt: *A review of Recent Decisions in Mercantile Law and Company Law*.
- THURS. 24 NOV.** East India Association, at the Royal Society of Arts, W.C.2. 4.30 p.m. The Earl of Home: *Tour of India and Pakistan*.
- Engineering Inspection, Institution of, at The Engineers' Club, Albert Square, Manchester. 7.30 p.m. W. N. Jones: *The Lost War Process of Investment Casting*.
- Refrigeration, The Institute of, at 1 Birdcage Walk, S.W.1. 5.30 p.m. L. Cowley: *Problems connected with the cooling of the Human Body by means of Mechanical Refrigeration*.
- FRI. 25 NOV.** Mechanical Engineers, Institution of, 1 Birdcage Walk, S.W.1. 5.30 p.m. F. G. C. Sandford: *Developments in Mechanised Welding in the Aero-engine Industry*.
- Photographic Society, Royal, Princes Gate, S.W.7. 7 p.m. P. T. Cahill: *Lighting for Documentary Films*.

OTHER ACTIVITIES

- SOW UNTIL SUN. 27 NOV.** Victoria & Albert Museum, S.W.7. *Memorial Exhibition of the work of E. McKnight Kauffer*.
- SOW UNTIL TUES. 29 NOV.** Imperial Institute, S.W.7. 10 a.m. to 4.30 p.m. Weekdays, 10 a.m. to 5 p.m. Saturdays, 2.30 to 6 p.m. Sundays. *Exhibition of Paintings from British Guiana*.
- SOW UNTIL SUN. 18 DEC.** The Tate Gallery, Millbank, S.W.1. *A retrospective Exhibition: Stanley Spencer*.
- MON. 14 NOV. UNTIL SUN. 20 NOV.** Imperial Institute, S.W.7. 12.30 p.m., 1.15 p.m. and 3 p.m. Weekdays, 3 p.m. and 4 p.m. Saturdays, 3 p.m., 4 p.m. and 5 p.m. Sundays. Films: *Island of Venus—Cyprus; Tauranga—New Zealand*.
- WED. 16 NOV.** Horniman Museum, London Road, S.E.23. 7.45 p.m. Concert: *Classical Indian Music*.
- MON. 21 NOV. UNTIL SUN. 27 NOV.** Imperial Institute, S.W.7. 12.30 p.m., 1.15 p.m. and 3 p.m. Weekdays, 3 p.m. and 4 p.m. Saturdays, 3 p.m., 4 p.m. and 5 p.m. Sundays. Films: *Bush Harvest—Australia; Speedbird to Sunrise—Far East; Cook Islands—New Zealand*.
- WED. 23 NOV.** Horniman Museum, London Road, S.E.23. 7.45 p.m. Concert: *Wood-wind Music of the 18th and early 19th Centuries on Instruments of the Period*.

